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THE TREATMENT OF PAIN *

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There is perhaps no subject of greater practical importance to doctors of all kinds than the treatment of pain. Pain is a biological necessity, and those rare individuals who are born with congenital indifference to pain suffer not only from the fact that they get no warning of injuries, but also from arthropathic joints. While there must still necessarily be much that is empirical in our treatment of pain, a rational therapy must depend upon an understanding of its anatomy and physiology. Here there have been considerable changes during recent years. Until about 20 years ago it was thought that there were specific nerve-endings associated with particular forms of sensation and that pain fibres had free nerve-endings with special receptors. It was thought further that each form of sensation was conducted by its own specific nerve fibres in the peripheral nerves, there being a correlation between the size of the fibre, the rate of conduction and the quality of the sensation. Within the spinal cord there was believed to be a segregation of fibres concerned with the conduction of pain, heat and cold, together with some of the touch fibres, in separate, but overlapping, pathways in the opposite spinothalamic tract. The optic thalamus was regarded as an end-station for pain, in the appreciation of which the cerebral cortex was held to play no part except, possibly, an inhibitory one, and the frontal lobe was not known to play any part in the awareness of pain or the reaction to it.

Today doubt has been cast upon the existence of specific nerve-endings, and Lele and Weddell (1956) have shown that the cornea, which contains only free nerve-endings, is not sensitive only to pain, as had been supposed, but also to touch, heat and cold. Doubt has also been cast upon the existence in the peripheral nerves of fibres concerned with particular forms of sensation, and much evidence has accumulated that what determines the quality of a sensation that is to be experienced is the pattern in space and time made by the nerve impulses excited by the appropriate stimuli, and conducted up the peripheral nerve (Sinclair, 1955). It is probably still true, however, that pain depends especially upon small, rapidly conducting fibres. The pattern theory of sensation has, as we shall see, one great advantage, that it offers a satisfactory explanation of various abnormal types of pain and allied sensation as distortions of the normal pattern. When we come to the spinal cord it may well be that here again patterns or rhythms of nervous impulses underlie different forms of sensation, and possibly the same fibres at different times conduct different forms of sensation. If this is so, the overlapping of the representation of pain, heat and cold in the spinothalamic tract, for example, might be due, not to the fact that the fibres separately concerned with each of these forms of sensation are intermixed, but that the same fibres take part in conducting different forms of sensibility. The importance of the optic thalamus in the pain pathway remains, but recently it has been thought that the cerebral cortex may play some part in awareness of pain. The operation of leucotomy, and the use of such drugs as chlorpromazine, have shown that the frontal lobes have an important, if not yet fully understood, part to play in our reactions to pain, a point to which I shall return later.

PAIN DUE TO LESIONS OF PERIPHERAL NERVES AND NERVE ROOTS

1. *External pressure.*

This accounts for a large group of disorders of peripheral nerve and nerve roots. It is a familiar fact that simple pressure on a peripheral nerve does not immediately cause pain. Prolonged pressure upon a nerve root, or peripheral nerve, however, causes oedema and, if unrelieved, eventually fibrosis, both conditions which cause pain and other disturbances of sensibility within the distribution of the nerve root or nerve affected.

Common examples of this pathological change resulting from pressure are (1) compression of the median nerve in the carpal tunnel, (2) meralgia paraesthetica, in which the lateral cutaneous nerve of the thigh is compressed as it passes through the fascia beneath the inguinal ligament, (3) Morton's metatarsalgia, (4) some cases of cervical rib, (5) acute compression of a cervical nerve root in an intervertebral foramen by an intervertebral disc protrusion, and

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(6) chronic compression of a cervical nerve root in the foramen in cervical spondylosis. (7) In 'sciatica' the compression affects the 5th lumbar or 1st sacral nerve root.

2. *Altered pain pattern resulting from nerve degeneration.*

It has been suggested that certain particularly unpleasant disorders of pain sensation may be explained as the result nerve degeneration if a reduction in the number of pain fibres and possibly also disturbance of insulation of those that remain, causes a distortion of the pain pattern. The result may be not only spontaneous pains, but a peculiarly unpleasant sensation resulting from painful stimuli, often associated with a raised threshold for pain and some delay in conduction, a condition known as hyperpathia. Some, or all, of these features are often seen in polyneuritis, when the sole of the foot is scratched or pressure is exerted on the calf. The condition occurring after nerve injury, and called by Head 'protopathic sensibility', also shows some of these features. In causalgia the condition is probably more complex, and the sympathetic nervous system appears to be involved.

3. *Herpes zoster.*

This illustrates the complexity of the ways in which pain may be produced by a comparatively simple process. The initial reaction to the virus infection is an inflammatory oedema of the nerve root, peripheral nerves and skin in the segment or segments involved. Later this may give place to scarring. Here, then, we encounter compression of nerve fibres, and altered pattern from degeneration, and involvement of nerve-endings in the scar tissue in the skin.

PAIN DUE TO DISEASE OF THE CERVICAL INTERVERTEBRAL DISCS

4. An even more complex situation arises when a nerve root or roots are involved in disease of the spine and I will illustrate this by discussing some aspects of the pain produced by protrusion of cervical intervertebral discs. An acute protrusion of a single intervertebral disc into its corresponding foramen is a comparatively simple cause of pain. Yet even this situation is complex, since pain in part originates from the spine itself and is associated with considerable spasm of adjacent muscles, while the reference of pain not only to skin, but also to muscles and joints innervated by the affected spinal root, may sometimes give rise to diagnostic difficulties simulating, for example, myocardial infarction.

When we come to the pain produced by chronic disc protrusion in cervical spondylosis the situation is much more complex. One or more nerve roots become tethered in their intervertebral foramina and their progressive compression in this way may cause pain. But cervical nerve roots have a fairly long oblique course within the spinal canal and may therefore be compressed by a disc protrusion at a higher level than the one corresponding to the foramen by which they emerge. Moreover, narrowing of the cervical intervertebral discs shortens the neck relative to the spinal cord and this may lead to compression of nerve roots in the foramina which are not themselves narrowed. Since the pain caused by irritation of one spinal nerve root may extend in some cases more widely than its recognized distribution, and since the other factors I have mentioned may also operate, it is not always easy to correlate the distribution of the pain with changes visible in the X-rays.

Sometimes it is not easy to say why pain should suddenly develop in a patient whose cervical spondylosis, and accompanying foraminal narrowing, is undoubtedly of long standing. I think that in such cases the explanation must often be that some unnoticed trauma—frequently, perhaps, traction on the brachial plexus—sets up a pain which the pathological condition perpetuates.

In addition to the pain of root irritation there is often some degree of pain in the neck itself, and this may be referred from the ligaments, muscles and joints though, again, it is often surprising how little pain is associated with gross bony change as shown in the X-rays. Finally, referred pain may itself induce peripheral changes, particularly in muscles, which in turn give rise to fresh pain. The best example of this is the so-called 'frozen shoulder' which is not infrequently associated with cervical spondylosis.

THE FROZEN SHOULDER

The frozen shoulder again illustrates the complexity of pain production. From the physician's point of view, leaving out of account direct trauma, the chief known associations of the frozen shoulder are (1) cervical spondylosis, (2) immobilization due to nervous disease, especially hemiplegia and Parkinsonism, and (3) referred cardiac pain as in angina or after myocardial infarction. Reflex factors, referred pain and immobilization play a variable part in the production of this symptom. When a frozen shoulder is associated with cervical spondylosis the latter may also be responsible for sensory or motor symptoms referred to the hand and so give rise to one variety of the shoulder-hand syndrome, but it is worth remembering that it is not uncommon to find both cervical spondylosis and carpal tunnel compression of the median nerve in the same patient, and if such a patient also has a frozen shoulder we have to deal with a shoulder-hand syndrome of a different kind.

THE TREATMENT OF PERSISTENT PAIN

It will be clear from what has been said that the satisfactory treatment of persistent pain can be based only upon an accurate assessment of the pathological factors involved. When we are dealing with a simple oedema some form of immobilization of the affected part may allow the oedema to subside. This is plain in the benefit derived from rest, with or without mechanical immobilization, in cases of pain due to intervertebral-disc protrusion. At either end of the spine traction may sometimes help to diminish pressure upon a swollen nerve root. When the position of the nerve is such that a recurrence of pressure, and hence swelling, is likely to follow a renewal of movement, surgical decompression is likely to be called for, as in the case of compression of the median nerve in the carpal tunnel, and of the lateral cutaneous nerve of the thigh in meralgia paraesthetica, but surgery is very rarely necessary in the treatment of nerve-root pressure by an acute cervical intervertebral-disc protrusion. The value of manipulation is probably chiefly in breaking down contractures which cannot be overcome in any other way.

Post-herpetic neuralgia is best prevented by a thorough treatment of the infection in the acute stage, or by X-ray irradiation of the affected nerve roots if the pain is still troublesome a month after the onset. If the pain still persists

relief can often be obtained by applying a mechanical vibrator to the painful areas, and it is often advantageous to train the patient to use this himself. Nerve block and chordotomy should rarely be required.

Sympathetic block is of special value in the treatment of causalgia, probably because the efferent fibres of the sympathetic play a part in maintaining the pain.

The technique of Maher (1957) is a promising advance in the treatment of the pain of inoperable malignant disease. It is based upon the fact that phenol in certain concentrations has a selective effect upon the pain fibres, which he interrupts by extradural or intrathecal injection. Chordotomy is occasionally helpful for the treatment of persistent pain in the lower half of the body, for example, post-herpetic neuralgia, painful phantom lower limb, and the pain of malignant disease. The spinothalamic tract should be divided on both sides.

The operation of frontal leucotomy reveals that the sensation of pain, which appears to us a simple and single experience, is complex in its representation in the nervous system, for after leucotomy it is not the perception of pain, but the reaction to pain which is altered. A pain will still be perceived, but it will have lost its distressing effect. Pharmacologically, drugs such as morphine, pethidine and methadone appear to act on the frontodiencephalic pathways—in other words, to depress those parts which are permanently interrupted in leucotomy. There is some dispute whether unilateral leucotomy is as effective in the relief of pain as the bilateral operation. In two recent series of 102 cases altogether, it was reported that the result of leucotomy for pain had been good in 46, fair in 32 and poor in 24. It appears to be of no value for psychogenic pain. It is probably justified only in the treatment of inoperable carcinoma and, as the same results can to an increasing extent be obtained with drugs, it will probably fall into disuse.

PSYCHOGENIC PAIN

We are all familiar with patients who complain bitterly of pain for which no organic cause can be discovered. They are mostly middle-aged or elderly women and the site of the pain is usually the face, the genitalia, the bladder or the rectum, and the pain usually excites considerable emotional reaction. In view of the powerful influence of the mind both in inhibiting and enhancing pain it is likely enough that pain should sometimes be a symptom of psychological disturbance. I am sure that this happens but, in some such cases as those I have described, especially when the onset occurs in a person of previously stable personality, I have sometimes wondered whether there may not be some underlying organic disturbance of function, perhaps in the autonomic nervous system.

This is a most difficult condition to treat. The earlier treatment is begun, the more likely it is to succeed. The temptation to interrupt the pain fibres by nerve block or surgery should be resisted, since it almost invariably makes the patient worse. Everything possible should be done to raise the threshold for pain, and this includes the judicious use of drugs with care to avoid the risk of addiction. In some cases the acceptance of the situation by the patient in itself affords some relief. Simple psychotherapy may be helpful, but analytical treatment, deep enough to eliminate the symptom, will sometimes precipitate a depression.

REFERENCES

Lele, P. P. and Weddell, G. (1956): Brain, **79,** 119.
Maher, R. M. (1957): Lancet, **1,** 16.
Murray, R. O. (1957): Brit. J. Radiol., **30,** 2.
Sinclair, D. C. (1955): Brain, **78,** 584.

BOOKS RECEIVED—BOEKE ONTVANG

Emergencies in General Practice. Special commissioned articles from the *British Medical Journal*. Pp. 470. 25s. net. London: British Medical Association.

Structural Psychology De Humani Mentis Fabrica. By D. and K. Stanley-Jones. Pp. vi + 179. 21s., postage 9d. Bristol: John Wright & Sons Ltd. 1957.

The Stress of Life. By Hans Selye, M.D. Pp. xx + 324. With illustrations and plates. 18s. net. London, New York and Toronto: Longmans, Green & Co. Ltd. 1957.

Some Milestones in the History of Hematology. By Camille Dreyfus, M.D. Pp. vi + 87. Illustrations. $4.50. New York and London: Grune & Stratton, Inc. 1957.

The Life of Mammals. By J. Z. Young, M.A., F.R.S. Pp. vii + 820. Illustrations. 84s. Oxford: Oxford University Press. 1957.

The Medical Annual. Seventy-fifth issue. Edited by Sir Henry Tidy, K.B.E., M.A., M.D. (Oxon), F.R.C.P. and R. Milnes Walker, M.S. (Lond.), F.R.C.S. Pp. xl + 570. Plates LII. Bristol John Wright & Sons Ltd. 1957.

The New Public Health. Fourth Edition. By Fred Grundy, M.D., M.R.C.P., D.P.H. Pp. 214. Illustrations 21 + 23 diagrams. 18s. net. London: H. K. Lewis & Co. Ltd. 1957.

Schizophrenia in Psychoanalytic Office Practice. Edited by Alfred H. Rifkin. Papers presented at the 1956 Symposium of the Society of Medical Psychoanalysts held in New York. Thirty Contributors. Pp. x + 150. $4·00. New York and London: Grune & Stratton, Inc. 1957.

Aids to Ophthalmology. Eleventh Edition. By P. McG. Moffatt, M.D. (Lond.), M.R.C.P., F.R.C.S. (Eng.), D.O.M.S. Pp. 282. Illustrations. 10s. 6d. London: Baillière, Tindall & Cox Ltd. 1957.

Trials of Evans and Christie. Edited by F. Tennyson Jesse. Pp. c + 379. 16 Illustrations. 30s. London, Edinburgh, Glasgow: William Hodge & Co. Ltd. 1957.

Peripheral Circulation in Health and Disease. By Walter Redisch, M.D., F.A.C.P. and Francisco F. Tangco, M.D., B.S. with a special selection by R. L. deC. H. Saunders, M.D., F.R.S.E. Pp. vi + 154. 25 Plates. $7·75. New York: Grune & Stratton, Inc. 1957.

Aids to the Diagnosis and Treatment of Diseases of Children. Tenth Edition. By F. M. B. Allen, M.D., F.R.C.P. (Lond.). Pp. 302. 10s. 6d. London: Baillière, Tindall and Cox Ltd. 1957.

Systemic Arterial Embolism. By John Martin Askey, M.D. Pp. x + 157. Illustrated. $5·75. New York and London: Grune & Stratton, Inc. 1957.

J.A.M.A. Clinical Abstracts of Diagnosis and Treatment. Pp. vi + 564. $5·50. New York and London: Intercontinental Medical Book Corporation with Grune & Stratton, Inc. 1957.

Tuberculosis Nursing. Second Edition. By Jessie G. Eyre, M.A., S.R.N., B.T.A. (Hons.). Pp. xvi + 354. Illustrations 98. 25s. net. London: H. K. Lewis & Co., Ltd. 1957.

Cryptorchism. By Charles W. Charny, M.D. and William Wolgin, M.D. Pp. viii + 140. 28 Illustrations. $5·85. New York: Paul B. Hoeber, Inc. 1957.

A Synopsis of Otorhinolaryngology. By John F. Simpson, F.R.C.S., Ian G. Robin, F.R.C.S. and J. Chalmers Ballantyne, F.R.C.S. With a section on Neurology of the Ear, Nose and Throat by Charles Harold Edwards, M.R.C.P. Pp. xii + 455. 88 Illustrations. 42s. Bristol: John Wright & Sons Ltd. 1957.

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EDITORIAL

THE BASAL GANGLIA

The great basal ganglia, the caudate nucleus, the thalamus, the globus pallidus and the putamen, are as a rule, not very familiar objects in a medical man's daily talk and thought. Once he recalls that the thalamus has something to do with rage and pain, that the caudate nucleus and the globus pallidus are together known as the corpora striata, and that somewhere nearby lies the putamen—strange name—the limits of his knowledge are in clear sight.

But recently the metabolism and intracerebral connections of the basal ganglia have begun to attract attention. In 1912 Kinnier Wilson[3] had already described the hepatolenticular degeneration which has gone by his name, and had suggested that an unknown poison was the cause of the liver damage as well as the damage to the globus pallidus. Quite recently, copper has been found to be this poison, and after a series of reports in which deposits of copper in unusually large concentrations were found in the globus pallidus in this disease, treatment with substances such as BAL, which mobilizes the heavy metals and permits them to be leached out of the circulation through the kidneys, has brought new hope and a certain amount of relief to sufferers in the early stages of this rare hereditary disease.

Naturally, the earlier the patients come up for treatment, the more benefit can they expect to derive from this new therapy, and it has now become of practical importance to recognize cases of Kinnier Wilson's disease early, so that treatment can be started as a matter of urgency.

The difficulties in making an early diagnosis lay in the fact that the nature of normal copper metabolism was not well understood, as copper is harmful in certain combinations only. Until more was known about the exact derangement of the copper metabolism, no advance could be made. However, the theory has been propounded that in Kinnier Wilson's disease, an increased absorption of copper from the alimentary tract takes place, and that there is a decrease in the synthesis of caerulo-plasmin, which is the copper-alpha 2-globulin form in which 95% of the copper is transported in the serum. Coincidentally, there appears to be an associated failure of renal tubular function which is reflected in a fall in the blood-uric acid, this low blood-uric acid, combined with liver-biopsy subjected to Uzman's[4] new analysis may help in arriving at a diagnosis.

VAN DIE REDAKSIE

DIE GANGLIA BASALE

Die groot ganglia basale, die nucleus caudatus, die talamus, die globus pallidus en die putamen is nie in die reël onderwerpe waarmee die dokter in sy daaglikse denke te kampe het nie. Wanneer hy daaraan dink dat die talamus iets te doen het met woede en pyn, dat die nucleus caudatus en die globus pallidus saam bekend staan as die corpora striata, en dat die putamen—vreemde naam—daar naby geleë is, besef hy dat hy met dié feite feitlik die perke van sy kennis bereik het.

Maar onlangs het die belangstelling in die metabolisme en die intraserebrale aansluitings van die ganglia basale al meer die aandag geboei. Reeds in 1912 het Kinnier Wilson[3] die voortskrydende ontaarding van die nucleus lenticularis (met lewersirrose en bilirubinurie) wat na hom vernoem is, beskrywe, en hy het voorgestel dat 'n onbekende gifstof die beskadiging van die lewer en ook van die globus pallidus kan veroorsaak. Dit is kort gelede bevind dat koper hierdie gifstof is. Na 'n reeks verslae, waar koperneerslae in besonder sterk konsentrasie in die globus pallidus by hierdie siekte gevind is, het behandeling met stowwe soos BAL nuwe hoop op herstel en 'n sekere mate van verligting aan pasiënte op 'n vroeë stadium van hierdie seldsame oorerflike siekte gebring. BAL is tewens 'n stof wat die swaar metale mobiliseer sodat hulle deur die niere uitgeskei kan word.

Hoe eerder die pasiënte met die behandeling begin, hoe meer kans het hulle natuurlik om baat te vind by hierdie nuwe behandeling, en dit is dus nou van groot praktiese belang om gevalle van die Kinnier Wilson-sindroom vroeg te diagnoseer, sodat die nodige behandeling dringend ingestel kan word.

'n Vroeë diagnose was moeilik omdat die aard van normale kopermetabolisme nog nie goed verstaan was nie, aangesien koper slegs in sekere verbindings skadelik is. Biopsie van die ganglia basale word beskou as onprakties en lewer nie goeie resultate nie, en dikwels was die diagnose aansienlik vertraag (weens hierdie struikelblokke).

Voordat die presiese aard van afwykende kopermetabolisme nie goed verstaan was nie, kon geen vordering gemaak word nie. Dit is egter teoreties voorgestel dat daar by die Kinnier Wilson-sindroom 'n verhoogde absorpsie van koper uit die spysverteringskanaal is, en 'n vermindering in die sintese van caerulo-plasmien—die koper-alfa 2-globulien vorm waarin 95 persent van die koper in die serum vervoer word. Dit blyk ook dat daar 'n gelyktydige en verwante versaking is ten opsigte van die werking van die nierbuisies wat geopenbaar word as 'n daling in die bloeduriensuur. Hierdie daling, tesame met die lewerbiopsie

Of the many unhappy features of congenital cerebral palsy, perhaps none is so distressing to the onlooker as athetosis. In these tragic cases, involuntary writhing movements often persist during all the hours of waking for the patient's natural life. The degree and intensity of the athetoid movements varies from individual to individual, and they may be so violent that they interfere with feeding and the patient may require to be strapped to a chair or to his bed to prevent the violence of his own movements from inflicting further injuries on himself.

Not all cases of athetosis are due to congenital conditions, many are caused by injuries to the intracerebral pathways connected with the basal ganglia. The pathological processes and changes underlying the affliction were obscure and little known, and the whole nature of involuntary movement was not clearly understood. In 1912 Horsley,[2] the pioneer English neuro-surgeon, attempted to relieve the condition by ablating portions of the cerebral cortex. The effects were unsatisfactory; any benefits which accrued being due solely to the weakening of the movements concerned. Until recently, the whole question of extrapyramidal involuntary hyperkinesis was considered rather mysterious. In recent articles Cooper[1] who has been interested in applying surgery to cases of Parkinson's disease, considered the matter, and after analyzing the effects of injections and operations on the globus pallidus in 400 cases of this condition, concluded that 'these hyperkinetic manifestations, namely tremor and rigidity, can be completely alleviated by operations on the globus pallidus without sacrifice of either motor or sensory function of the involved limbs'. He applied some of the lessons he had learnt from operating on these cases of Parkinson's disease to certain cases of athetosis in younger people. Using a method of guided needles introduced through trephine holes, he has devised a means of injecting small quantities of absolute alcohol or of a plastic substance dissolved in absolute alcohol to destroy the posterior and medial portion of the globus pallidus. This operation he calls 'chemopallidectomy'. He reports 30 such cases and describes 4 in detail. The illustrations of Case 3 could not unfairly be considered as perhaps the most dramatic pictures in medical illustration that have been seen in the last few years. A completely helpless, writhing child with no prospect of a future and apparently no hope of normal existence is converted within a few days into a normal looking, easily standing individual, completely relaxed.

Naturally not every case of cerebral palsy is suitable for 'chemopallidectomy', but a ray of hope is beginning to shine on a particularly dark corner of medicine.

1. Cooper, I. S. (1957): J. Amer. Med. Assoc., **164**, 1297.
2. Horsley, V. (1909): Brit. Med. J., **2**, 25.
3. Wilson, S. A. K. (1912): Brain, **34**, 295.
4. Uzman, L. L. (1956): Lab. Invest., **5**, 299.

volgens Uzman[4] se nuwe ontleding, sal die dokter moontlik help om sy diagnose te maak.

Atetose is vir die bystaander seker die droewigste van al die tragiese aspekte van aangebore serebrale verlamming. By hierdie treurige gevalle hou die onwillekeurige krullende bewegings aan gedurende al die ure wat die slagoffer wakker is—solank hy lewe. Die graad en heftigheid van die atetotiese bewegings wissel van pasiënt tot pasiënt, en hulle kan só heftig wees dat die voeding bemoeilik word. Die pasiënt moet soms vasgegespe word aan sy stoel of bed om te verhoed dat hy hom deur sy eie bewegings verder beseer.

Nie alle gevalle van atetose spruit uit aangebore kondisies nie; dikwels word dit veroorsaak deur beserings aan die intraserebrale gange van die ganglia basale. Die grondige patologiese proses en veranderings by hierdie siekte was duister en onbekend, en die aard van onwillekeurige bewegings was iets wat dokters nie heeltemal verstaan het nie. In 1912 het Horsley,[2] die Engelse pionier in die neurochirurgie, probeer om hierdie kondisie te verbeter deur sekere dele van die harsingskors te verwyder. Die resultate was onbevredigend; die bate wat wel daarby gevind was, was slegs te danke aan die versagting van die rukkende bewegings. Tot onlangs is die hele vraagstuk van buitepiramidale hiperkinese as taamlik geheimsinnig beskou. Cooper,[1] wat belang stel in snykundige ingreep by gevalle van Parkinson se siekte, het in onlangse artikels ook hierdie saak bespreek, en nadat hy die uitwerking van inspuitings en operasies aan die globus pallidus by 400 gevalle van hierdie kondisie ontleed het, het hy tot die slotsom gekom dat hierdie hiperkinetiese manifestasies, naamlik trilling en styfheid, heeltemal verlig kan word deur operasies aan die globus pallidus sonder om die motoriese en sensoriese funksie van die betrokke ledemate enigsins te belemmer. Hy het die ondervinding wat hy opgedoen het met sy operasies aan sy gevalle van Parkinson se siekte toegepas op sekere jong atetotiese pasiënte. Sy metode is om deur middel van gerigte naalde deur die trepaangaatjies klein hoeveelhede watervrye alkohol of 'n plastiese stof opgelos in absolute alkohol in te spuit om die agterste en binneste gedeelte van die globus pallidus te vernietig. Hy noem hierdie operasie ‚chemopallidektomie'. Cooper rapporteer 30 sulke gevalle en beskrywe 4 van hulle in besonder. Die illustrasies by geval 3 kan met reg beskou word as die mees dramatiese mediese foto's wat oor die laaste paar jaar gesien is. Die totaal hulpelose, verwringe kind, met geen hoop op 'n toekoms en klaarblyklik geen hoop op 'n normale lewe nie, is binne 'n paar dae verander in 'n normale persoon wat maklik kan staan en heeltemal ontspanne is.

Nutuurlik is nie alle gevalle van serebrale verlamming geskik vir ‚chemopallidektomie' nie, maar vandag word hierdie besonder donker hoekie van die medisyne darem met hoop bestraal.

1. Cooper, I. S. (1957): J. Amer. Med. Assoc., **164**, 1297.
2. Horsley, V. (1909): Brit. Med. J., **2**, 25.
3. Wilson, S. A. K. (1912): Brain, **34**, 295.
4. Uzman, L. L. (1956): Lab. Invest., **5**, 299.

ALKALINE PHOSPHATASE DEFICIENCY

In 1948 Rathbun,[1] in Canada, described the case of a male infant who died at the age of 9 weeks and in whom there were metaphyseal changes resembling severe rickets. There was a mild hypercalcaemia, and the alkaline-phosphatase activity was found to be extremely low in serum, bone, kidney and intestines. Rathbun invented the term 'hypo-

phosphatasia' to describe this condition. In 1953, Sobel *et al*[2] described a similar case. A 19-month-old girl showed severe rachitic changes and premature loss of deciduous teeth. There was no evidence of renal disease. The serum calcium was normal and the alkaline-phosphatase activity very low. In the same communication preliminary data from 5 additional cases were given, all having radiographic signs of severe rickets and low serum-alkaline-phosphatase activity. In 1954, Neuhauser and Currarino[3] presented 4 other cases. In them, the diet and vitamin intake were normal. The skeletal disorder was characterized by defective bone formation in some or all areas of endochondral or membranous bone development, while non-osseus growth processes continue. There is reduced rebuilding of bone and deficient mineralization of newly formed organic matrix. Growth of extremities is retarded, the diaphyses are small in diameter and there are wide gaps between bones of the limbs and of the calvarium.

Several more cases have been described, and it has become apparent that renal disease may also be present, even (as in a case of Engfeldt and Zetterström[4]) to the extent of nephrocalcinosis. This kidney affection is not, however, the primary lesion, but is a secondary manifestation, probably caused by the hypercalcaemia. These two strange concomitants, hypercalcaemia and renal damage, are found only in some of the cases. The cause of the hypercalcaemia is presumably an absorption of calcium from the bowel which is greater than the abnormally low requirements of the hypophosphatasic child. Whether or not these children are also abnormally sensitive to vitamin D remains to be investigated. It is an interesting fact that vitamin-D intoxication also produces a raised serum calcium and a reduced serum alkaline phosphatase[5], and this biochemical combination is also seen in idiopathic hypercalcaemia of children[6], who are believed to be over-sensitive to the action of vitamin D.

An entirely different facet of this disorder has been reported by Dent[7] who, with Casworth, subjected the urines of 6 typical cases to chromatographic analysis. All these showed the same abnormality, namely a greatly increased output of phospho-ethanolamine. The identification of this substance from every case so far investigated appears to be beyond doubt, although a pure sample has not yet been isolated and analyzed. However, the paper chromatographic analysis shows identity with synthetic material, as also does the paper-electrophoretic separation technique, and the behaviour on ion exchange resins is exactly that of pure phospho-ethanolamine.

The connection between phospho-ethanolamine excretion and the bone disease is yet obscure. There is no doubt, however, that this phosphatic substance is a substrate readily hydrolysed by alkaline phosphatase, and the exciting possibility therefore arises that phospho-ethanolamine is indeed the true natural substrate for bone alkaline phosphatase, and that it appears in the urine because there is insufficient enzyme to metabolize it. This would fit nicely with the idea that a metabolic block is present, an inborn error of metabolism. The disorder would then be comparable to alkaptonuria, in which homogentisic acid accumulates because of lack of its specific enzyme; or to female pseudohemaphroditism, in which androgens accumulate because of lack of the enzyme next concerned in the pathway of adrenal synthesis of hydrocortisone.

There is evidence of the hereditary nature of hypophosphatasia in that parents and other close relatives of affected children, while themselves normal, have been found to have low serum-alkaline-phosphatase activities. This may indicate the possession of a single recessive gene for hypophosphatasia, the affected (homozygous) children having a double dose. It seems that we may consider the disorder as an inherited one, of foetal origin, and in this way comparable to other osseous dystrophies such as osteopetrosis and osteogenesis imperfecta. We have learnt, perhaps, more of the underlying abnormalities of hypophosphatasia in a few years than of the other osseous developmental disorders in decades or centuries.

1. Rathbun, J. C. (1948): Amer. J. Dis. Child., **75,** 822.
2. Sobel, E. H., Clark, L. C., Fox R. P. and Robinow, N. (1953): Pediatrics, **11,** 309.
3. Neuhauser, E. and Currarino, G. (1954): Amer. J. Roentgenol., **72,** 875.
4. Engfeldt, B. and Zetterström, R. (1954): J. Pediat., **45,** 125.
5. Fanconi, G. and di Chastoney (1950): Helv. paediat. Acta., **5,** 5.
6. Bonham Carter, R. E., Dent, C. E., Fowler, D. I. and Harper, C.M. (1955): Arch. Dis. Childh., **30,** 399.
7. Dent, C. E. (1956): Ciba Foundation Symposium on *Bone Structure and Metabolism.* London: Churchill.

NEW ASPECTS OF CHILD CARE*

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The last 10 years in Britain have seen a remarkable development in many aspects of child care. Living in a revolution often means that what is going on around is not completely appreciated, and this paper is an attempt to look back on the decade and to try and sort out what has been happening. In the social field of child care the Children Act of 1948 marked a major development in the community's responsibility for the care of children deprived of a normal home life and today the innovations of even 5 years ago seem already out of date. Better methods for the prevention of the break-up of family life are being widely urged and a Government Committee is considering legislation for this purpose.

Paediatrics in the Medical Curriculum. In the more strictly medical field the fundamental advance has been the recognition of paediatrics as a major subject. All the Universities

* A paper read in plenary session at the South African Medical Congress, Durban, September 1957.

in the United Kingdom and Northern Ireland have established Chairs (except Oxford and Cambridge), which are usually termed Chairs of Child Health, to emphasize the new outlook. This is also seen in the close association in many instances between the university department and the local health authority. Social medicine has also come into the curriculum as a modern approach to the study of environmental factors in disease, and undergraduates can often grasp the importance of this more clearly in the field of paediatrics, which therefore gives them a good introduction to the wider aspects in adult life. The exact placing of paediatrics in the medical curriculum is still subject to varying views, but it is usually closely linked with midwifery. Similarly, the place of paediatrics in the final examination takes different forms in different universities. I should be quite prepared now to see it left out altogether, for paediatrics has a popular appeal with students and some simple class examination would keep the slackers up to scratch! It was, however, necessary to press for a share in the examination in the early days, because deans would only yield adequate time and supply adequate staff if the subject was one to be faced at the 'final'. Probably the use of paediatricians as part of the team of examiners in medicine is the right answer, especially as nowadays they are often the only general physicians left! With the better education of the medical student in child health there is a growing number of family doctors well equipped to look after sick children at home (to be discussed later) and with better knowledge of the preventive services available.

COOPERATION WITH HEALTH AUTHORITIES

The development of a closer association in many centres between the children's hospital (and university departments) and the local health authorities, including the school health service, has been achieved in varying ways and is perhaps better seen outside London. The exchange of staff has made for better understanding and is a valuable training method. At the hospital for Sick Children, Great Ormond Street, there is an arrangement with the London County Council whereby one of the registrars takes one of the child welfare clinics or school health clinics each morning while the Council's medical officer takes an out-patient session at the Hospital as part of the team of one of the physicians. In addition, the staff of the Institute of Child Health takes charge of a weekly toddlers' clinic at our own Province of Natal Centre and I very much enjoy my monthly return to this type of preventive work. At the administrative level, medical officers of health often serve on hospital boards or committees, and again from the Institute staff there is a member of the appropriate divisional health committee of the London County Council. The advice of the local medical officer of health is freely available for all problems of hospital epidemics, although probably he is not called in as often or as early as he should be in many instances.

There is, however, one aspect of this close association between hospital and community work which must be watched with care. The medical officer of health has a first duty to prevent spread of disease and he therefore thinks in terms of the isolation hospital—often only too truly isolated from all contact with the children's hospital services. The hospital physician, on the other hand, thinks first of the welfare and treatment of the individual patient. The conflict is especially well seen in regard to poliomyelitis, which the health authorities would like to see always treated in an isolation hospital, whereas although not necessarily willing to admit children with such a disease to a children's hospital (for it may disrupt the ordinary work) it is not always in the child's best interest to transfer him to an isolation hospital with a possibly long journey when the disease is developing. Clearly the solution is to improve all the facilities at the isolation hospitals and put hospital paediatricians on the staff together with well-trained children's nurses. This is already happening in a few centres but the days of the 'medical-superintendent fever hospital' are not yet over!

CHANGES IN THE CHILDREN'S WARD

Another very remarkable change in child care today is seen in the whole atmosphere of a children's hospital or ward. In my time as a resident and registrar most of the children were in bed all the time and the death rate was high. Today with modern drugs and modern methods of surgery, children are less ill and for shorter times. Children with pneumonia, for example—only rarely admitted incidentally—are convalescent in a few days, and even after major cardiac surgery I have seen a child running about after a week. It is true that certain long-term conditions are still with us. Tuberculous meningitis, for example, has taken the place of rheumatic fever. Nephrosis presents novel problems. Leukaemia seems to be on the increase. Reparative surgery for congenital deformities is taking an important place. Nevertheless children are often up for longer periods than they stay in bed and it is necessary to provide education, occupation and recreation. There is a 'school' with 3 teachers at Great Ormond Street paid for by the local education authority even although we are an 'acute' hospital. Occupational therapy is available. The wards have to provide a playroom, with television, of course. Nurses have to understand the recreational needs of the child.

With modern drugs to control infection and with more children less knocked out, so to speak, by illness it is necessary to give careful thought to the psychological side. Some years ago the public was told that hospitals were doing serious harm to children by refusing to allow visiting and thereby enforcing a separation of mother and child which, it was alleged, might do permanent harm. Some of this talk was largely theoretical on the part of psychiatrists who had not been at the bedside of an ill child since their student days, and the potential harm done by separation was probably exaggerated. The effect of the child's illness upon the subsequent behaviour has to be remembered. None of us is quite so sweet-tempered in convalescence as before an illness. Moreover, the child's background and family life play an important part in his reaction to a period of hospitalization. Children from secure and happy homes are better able to face adversity than when they come from broken and insecure homes where affection, positively expressed, is lacking. Mothers who complain that hospitals have harmed their children should search their own hearts to see if some of the blame may not rest with them. It is often possible to prepare a child for hospital, if time permits, and on no account should the hospital be talked of as a

place of correction for naughtiness as I have heard it done by a distracted mother in my out-patient clinic.

Child Psychology

There is also some degree of psychological tangle which still needs unravelling. If a child 'settles down' well and appears not to be unhappy in hospital it is said that he may well be brooding secretly and will be upset on return home. On the other hand if he exhibits grief and rage this is also said to be a bad thing, so that the psychological school seem to be trying to have it both ways. It is clear that the superficial reaction of the child is not the whole story, and it is necessary to look below the surface if the true reaction of the child is to be understood. Here I would like to pay tribute to my own colleagues in our department of psychological medicine for their enormous help. Our psychiatrist does a weekly round with the medical registrar to discuss with them the psychological aspects of any of the patients, and we also do a monthly joint teaching round for the benefit, we hope, of our postgraduate students as well as of ourselves.

There is no doubt in my mind, however, that separation of the child from his home may inflict a serious blow to his emotional state. This seems to be especially likely at the vulnerable age of about 9 months to 3 years. Before this, babies present special problems, which are mentioned below. After this age memory of home is stronger and there is more comprehension of what is going on and appreciation of the recreational facilities provided. There are also probably vulnerable children who, as already stated, come from unstable homes and who have already experienced threats to security and loss of affection in other ways. It is therefore necessary to seek ways of mitigating the separation experiences of a child in hospital. This leads to the subject of visiting.

Visitors and Cross-infection

Up to some 10 years or so ago all in charge of a children's ward were constantly worried by the fears of cross-infection. Children came in for some simple operation, for example, and died of infectious diarrhoea. It was widely and sincerely held that some infections were brought in by the parents, and hence visiting was largely restricted. It was also sincerely felt (and still is by some) that visiting so upset a child that it is better not to permit it. The green light came in an accidental way. Towards the end of the last war the British Paediatric Association in an optimistic mood set up a study of the architectural aspects of the new children's hospitals which it was hoped would be built. (It is an interesting reflection on the changes of the past decade that there are possibly too many children's hospital beds available today!) A 12 months' study of all the factors thought to be contributory to the central problem of cross-infection was undertaken and the results submitted to a careful statistical analysis. It was clearly shown that there was no correlation between visiting by parents and the incidence of cross-infection. Fortified by this, some of us began to experiment with more frequent visiting than had hitherto been permitted. Daily visiting became the pattern in my wards, at first at a set time of day but now almost unrestricted. Many of my colleagues have also been led to make changes and, although the practice in Great Ormond Street is not uniform and there are still certain practical difficulties in certain departments, the change in outlook has been enormous.

The Mother in the Children's Ward

But merely to allow visiting more frequently is not the whole story. I still maintain that visiting shall be at the discretion of the medical staff and ward sisters and very occasionally we may decide to ban it for a period. The knowledge that frequent visiting is permitted at once increases parental confidence, and this is possibly one of its main values. Easy and frequent contact with their sick child and those looking after him lessens parental anxiety, and such anxiety is no longer transmitted to the children to contribute to their possible unhappiness. This 'confidence trick', as I sometimes call it, begins of course when the child first comes to hospital—even before, in a sense, if the hospital's reputation stands high. It must be fostered in the out-patient department by courteous reception and every endeavour to reduce frustrating delays by an appointment system. It must be continued through the process of admission. Sometimes, when a child's name is put on the waiting list and the parents are reluctant to allow admission, I send them all up to the ward to see what goes on and meet the nursing staff.

At the time of admission the old custom of a bath in the admission unit with cleansing of the head and the discarding of all links with home in the shape of clothes and the favourite toy is no longer continued. The child goes up to the ward where his mother may help in putting him to bed—in attractive clothes and with his favourite teddy bear beside him if requested. From that time onwards mothers may come, usually in the evenings, to my wards. They are encouraged to be active visitors and not sit passively at the bedside in a depressed frame of mind! They may help to settle the child for the night, giving the evening wash, helping with his supper, reading a story, saying his prayers with him and tucking him down to sleep—which often follows before mother leaves. (Occasionally we cheat with a sedative to achieve this when parting has seemed especially upsetting.)

When mothers cannot come every day it is often possible to provide substitutes and share the visiting. If the mother of a child in a neighbouring bed is introduced as 'Aunty' by the child's own mother (and this is important) it is often accepted as similar to the custom of neighbours at home. For parents at a distance we sometimes find a relative near at hand, or a pupil teacher in training, or a substitute mother from a small selected panel of volunteers, who often have had their own children in my ward. Fathers are encouraged to visit when they can—especially for little girls, who miss them a lot—and they frequently get in for a few minutes in the lunch hour. With all this, and especially when parents live at a distance and cannot visit often, links with home can be kept going by postcards, books, hair-ribbons, and even the use of the telephone in certain circumstances!

The confidence thus engendered can be greatly helped by easy access to the 'chief'—the member of the staff actually in charge. I do not think it fair or right to leave all the explaining to the nursing staff or to the residents. Indeed, I think it part of my work to train my resident how to talk to parents about what has happened, what we are trying to do, what is the likely outcome, and even bringing in preventive medicine by attempting to show how further trouble may be prevented. Some parents have to be specially

asked to see me. Others do not want to trouble me. All, however, whether they use the service or not, have more confidence if they feel that they have the chance.

The Young Baby in the Ward

For young babies the difficulties of separation are different and, indeed, I suspect that it is the mother's emotional state which is more upset. It may be ideal to consider admitting all mothers with their babies but it is not always practical and not always necessary. What the baby needs is probably not too many strange faces and case assignment among the nursing staff may minimize this. It has been suggested that the use of masks may help in this respect by making everybody look the same! One of the most successful baby nurses that ever worked for me came from West Africa and some of the success, I feel sure, was due to the ease of recognition by the little patients. An important part of the care of small babies in hospital is to secure easy transition from hospital to home. If they have not been living in, mothers are encouraged to come in by day (or, if necessary, to live in) for several days before the child is discharged, so that all details of feeding and care are understood. The mother's confidence in herself is fostered and an abrupt change avoided.

Some agree, however, that the difficulties we make for ourselves might be largely avoided if more children were kept out of hospital—cared for in their own homes.*

PREVENTIVE SERVICES

Finally in relation to child care today, here are a few random thoughts on the preventive services. It seems important to decide what diseases and disorders it is nowadays planned to try and prevent. Infant mortality rates are at a low level. Gastro-enteritis as a serious menace to health has virtually disappeared in Britain as a national problem, although local outbreaks in children's nurseries and newborn baby departments indicate that complacency is unwise. Nevertheless the standardization of safe feeding methods has largely mastered the main reason for the development of the infant welfare movement.

There is still scope for the better care of the newborn, and especially of the premature infant, although important reductions in mortality and morbidity have been made. After the newborn period respiratory-tract infections now head the list in mortality rates of the very young, and we need to know more about household infection and how to prevent the common cold of the adult, merely a nuisance, from becoming a fatal pneumonia in the young baby. Congenital malformations present a great challenge in the study of their causation and to the surgeons in the alleviation now so ably carried out in safety in regions previously inaccessible.

Some organization is necessary in the growing programme of preventive inoculation. The usual list now includes vaccination against smallpox, immunization against diphtheria and vaccination against whooping cough, to which may be added tetanus prophylaxis, B.C.G. and the use of the poliomyelitis vaccine. Quite apart from the administrative problems of timing all these 'shots' there is scope for study of antibody formation, interferences, reinforcements and so forth. (The young child who goes abroad may also have yellow-fever inoculation and T.A.B.)

Two outstanding problems in child health seem to need urgent consideration. One concerns the rise of '*accidents*' as a cause of death in early life—now causing a higher mortality after the age of infancy than any of the infectious diseases. The term comprises poisoning, home accidents (including burns) and deaths on the road. The second is the possibility that the child welfare movement, which must receive credit for much of the improved physical condition of children today, might turn its attention to the psychological side. Could not the infant welfare centres do more to prevent the development of behaviour problems, to detect early the unsatisfactory mother-child relationship, which may lead on to delinquency in the child and neurosis in the mother? Already this possibility is being explored in some areas. In London, seminars and case conferences for health visitors and the medical staff of welfare centres are being led by child psychiatrists, and it is hoped that such training on the job may lead to the emergence of preventive mental hygiene as an important part of what the infant welfare movement has to offer. The time is ripe for a radical review of methods used in the infant welfare centres and in the school health services in terms of 'job analysis' and methodology. To a large extent there has been little change since 50 years ago. It is now being asked whether the services provided really equip a child physically and psychologically to face life in industry, for example, or to be a good parent. This is the ultimate test of child care—what is the finished product like? The present amount of juvenile delinquency and adult neurosis suggests that there is still a lot to be done.

* See Gairdner, D., page 981 of this issue.

HOME CARE OF THE SICK CHILD*

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In recent years there has been much interest in various centres in Britain in the idea of caring for sick children in their homes, and thereby admitting fewer of them into hospital. The impetus for this trend can be traced to several sources.

1. The late Sir James Spence had in the 1920's started the Babies' Hospital in Newcastle, and a feature of this was that the mothers were encouraged to come into hospital with their children and to take an active part in their day-to-day care. His insistence that the mother and young child together form a single unit—a unit which it is perilous to break up, particularly at a time of stress such as an illness of the child's—was not then the accepted fact that it has

* A paper read in plenary session at the South African Medical Congress, Durban, September 1957.

since become. Spence's influence upon his fellow paediatricians stimulated them to turn a more critical eye upon their own hospital units, and since in these it often proved impossible to follow Spence's plan of admitting mothers along with their children, the alternative of keeping both at home and doctoring the child there had to be considered.

2. The disastrous effects which a child may suffer if he is separated from his mother was high-lighted by the work of Bowlby, whose documented evidence on the subject was published in 1951 in his *Maternal Care and Mental Health*. Hospitalization of a child, especially when the stay was prolonged, or when it was not mitigated by frequent visiting by the parents, was shown to be a potent source of emotional disturbance, reaching sometimes far into later life. Although children's hospitals have not been slow to accept the reality of these dangers and have greatly humanized their arrangements,† the most logical and least cumbersome solution of the difficulties may still be to take the hospital into the home whenever possible, rather than the other way about.

3. The rising standard of living and the improved standards of child care, together with the trend towards smaller families, has meant that a mother is more likely to be in a position to devote herself to the detailed care of a sick shild.

4. The risk to a child in hospital of developing a cross-infection, though immensely smaller today than it used to be, can never be ignored. One of the first schemes for nursing children at home, that at Rotherham, was started largely because of the high mortality amongst young children admitted to hospital and there acquiring gastro-enteritis.

5. To the family doctor it is a sad loss if every patient that becomes seriously ill is necessarily admitted to hospital, since too often today the general practitioner is not on the staff of the hospital and so loses touch with the patient, We all know the fillip we get from steering a child through a serious illness, and the heart-warming gratitude we receive from the parents. How necessary it is that the general practitioner with his daily load of trivialities, should also have his share of these deep satisfactions! Furthermore, the prestige which the family doctor acquires by being himself able to handle major and not merely, minor illness enhances his patients' confidence in him and so makes it easier for him to doctor them well.

6. An incidental advantage of home care over hospital is saving of cost, since a hospital bed costs at least £25 per week to maintain.

BRITISH SCHEMES OF HOME NURSING

Although conditions of medical practice in South Africa no doubt differ greatly from those in Britain, so that your needs are different from ours, it may be of interest to you to hear something of the schemes for home nursing of sick children which have been started in Britain since the War.

There has long existed throughout the country a home nursing service. This began, like so many other social services, by voluntary efforts, when the Queen's Institute of District Nurses was founded in 1887, but later it was taken over for the most part by the local authorities. Each local authority now maintains a group of District nurses, but there is a good deal of variation in the way in which their services are deployed in different places. Any local authority may, if it chooses to do so, second some of the nurses it employs to the nursing of sick children at home, and this is what has been done in the first three schemes which I shall mention.

Rotherham is an industrial town of 80,000 near Sheffield in Yorkshire. In the post-war years there was here a high mortality from infantile gastro-enteritis, much of which was due to infection acquired by young children admitted to hospital from other causes. This situation prompted the Medical Officer of Health, Dr. J. A. Gillet, to organize a scheme which would make it easier for sick children to be nursed at home instead of being admitted to hospital. From the team of district nurses 2 with paediatric training were put at the service of any general practitioner who asked for them. The service was quickly popular amongst the local doctors and an average of about 600 cases have been dealt with each year since 1949. Concurrently with the start of the home-nursing service deaths amongst children from enteritis fell from 31 in 1948 to *nil* in 1952, although no doubt many other factors contributed to this striking fall (Gillet, 1954).

The success of the Rotherham scheme prompted a somewhat similar scheme in one district of Birmingham. In this instance, however, the initiative came from the local children's hospital, which invited the local authority to provide two home nurses, while the Birmingham Children's Hospital provided paediatric nursing training for these nurses. The scheme at present functions in an area surrounding the hospital with a population of 100,000. A feature of the Birmingham scheme is that the nurses work in close co-operation with both the general practitioner and the children's hospital. This makes it easy to achieve continuity of treatment when a child is treated at first at home and later is transferred to hospital, or conversely when a child is discharged early from hospital in order that treatment may be completed at home (Smellie, 1956).

The difficulties of providing hospital care for all premature babies prompted Miller (1947, 1948) in Newcastle to ask how far hospital care was really necessary for the majority of these small babies. Here the midwives employed by the local authority were each given training in the premature unit at one of the maternity hospitals, while most of the smaller babies became the responsibility of one or two midwives with special experience in this field. It was found that the results of caring for premature babies at home, even in a city where the standard of housing is low, can equal those attained with hospital care, except in the case of the smallest babies—those below 3½ lb,—which fare better in a hospital premature unit. These satisfactory results in the home were achieved by adopting the simplest methods with a minimum of special equipment, and in this way the mothers could generally be taught by the nurse how to handle and feed these small babies. An important advantage of rearing a premature baby at home is that the mother, and indeed the whole family, gain a sense of achievement and pride in the successful outcome of their own efforts, and this cannot but be a helpful influence in strengthening the family as a unit.

The scheme centred on the paediatric department of St. Mary's Hospital, London, differs entirely from the Rotherham, Birmingham and Newcastle schemes, in that the hospital and not the local authority provides both the personnel and the finance for the service, the local authority contributing only the necessary transport. Further, the scope of

† See Moncrieff, A., page 978 of this issue.

the scheme is more ambitious since doctors as well as nurses are provided. Lightwood *et al.* (1957) state that the aims of the scheme are 'to redress what we believed to be a faulty balance between hospital and domiciliary practice; for we had found that nearly a quarter of the children in hospital during a review period were admitted for conditions which could have been managed at home if the doctors had possessed the facilities and experience required, and that there were other children whose stay in hospital could have been shortened'.

The patient remains throughout the responsibility of the general practitioner, supported by the hospital-based mobile team, consisting of 2 part-time paediatricians, a nursing sister, 2 nurses, and 1 part-time physiotherapist. Any general practitioner in a defined area with a population of 75,000 around St. Mary's Hospital may call on the services of the team. A wide range of diagnostic and therapeutic techniques thus becomes available to the sick child at home, and procedures which have been applied include pleural aspiration, duodenal intubation, subdural tapping, B.M.R. determination, fat balance, intravenous fluid administration including blood transfusion, continuous limb traction and the steam tent. In a real sense, therefore, the St. Mary's Hospital scheme does take the hospital into the home.

The cost of treating a patient at home under this scheme works out at a small fraction of the average cost of a hospital-treated case, though it is difficult to provide a precise basis for comparing the costs of the two types of care. The number of cases dealt with in 1955-6, the second year of the scheme, was 376.

THE CAMBRIDGE SCHEME

The various schemes I have mentioned so far all operate in densely populated districts where the standard of housing is low. I myself am so fortunate as to work in very different surroundings, in the country town of Cambridge and the surrounding rural district, where the standard of housing is comparatively good, and the quality of medical care provided by the family doctor usually high. Under these happy circumstances many of the aims of the special schemes for home nursing of children can be realized by making full use of the ordinary services provided by the National Health Service and by the local authority. In a circumscribed district like this, a consultant soon comes to know most of the family doctors personally, as well as many of the domiciliary nurses and midwives. His advice is freely sought over the telephone and, under the domiciliary consultation service of the N.H.S., the paediatrician is able to see a sick child at its home in consultation with any family doctor who wishes such help. In this way the paediatrician, with his access to the laboratory facilities of a hospital, can bring these facilities to bear upon the diagnostic problems of any child who is ill at home, while nursing help can be secured from the district nurse or midwife. The real key to the matter, however, is the easy access which the family doctor has to the opinion of the paediatrician. One thinks of the heavy load of responsibility of the doctor presented with the child with acute abdominal pain and anxious parents who are sure that he has appendicitis; or the child with an obvious respiratory infection plus a suggestion of neck stiffness; or the acutely febrile child devoid of any localizing signs; or the baby who has started an acute diarrhoea; or the child with vague symptoms and a story of contact with polio—many worrying cases such as these the family doctor could not risk keeping at home on his sole responsibility; yet after a consultation with the paediatrician a decision to keep the child at home is often arrived at.

By the same token, the hospital stay of many children can be much shortened if the paediatrician in charge is in a position to discuss the case over the telephone with the family doctor who will be looking after the child on his return home. To give some examples of how this liaison between hospital and home doctoring may operate:

Pyloric stenosis: In Cambridge over the past 8 years there have been admitted just 100 cases of pyloric stenosis, the majority treated surgically. Three-quarters of these babies stayed in hospital 7 days or less and nearly half for 4 days or less, returning home with their sutures in. There have been no deaths.

Herniotomy: The child may return home the day after operation, sutures being removed later either at the hospital as an out-patient, or by the family doctor or the district nurse at home.

Tuberculosis: The advent of chemotherapy has made it possible both to shorten materially the duration of treatment, and to conduct much of this treatment at home, where streptomycin injections may be given by the district nurse.

Metabolic investigations: With ingenuity on the part of the physician in devising appropriate experiments, it is surprising what elaborate investigations the average mother is capable of carrying through. Rough but informative calcium balances have proved feasible in the home, and the relative ease with which total faecal collections over a long period can be obtained from children at home has a number of applications, for instance in assessing the effectiveness in fibrocystic disease of the pancreas of different dosages of pancreatin.

Arrangements such as those I have described produce a tangible saving in hospital beds. I have estimated (Gairdner, 1956) that in the area in and around Cambridge with a population of 287,000 the total number of hospital beds for children is 84, or 29 per 100,000; this figure includes E.N.T., ophthalmic, long-stay tuberculous and orthopaedic cases and infectious diseases, as well as all general paediatric cases, with the sole exception of prematures. This figure would be reduced to about 20 per 100,000 if E.N.T. children's beds, largely employed for tonsillectomies, were excluded. These figures are far below those which have generally been thought necessary (Spence and Taylor, 1954), and are a measure of the economy in children's hospital beds which results when local medical arrangements are conducive to a really effective dovetailing of home and hospital doctoring.

If much of the treatment of acute illness in childhood is to be carried out in the home, it seems clear that sooner or later the teaching of clinical paediatrics will need to follow. If the hospital in its diagnostic and therapeutic functions is to be taken into the home, so must its teaching function. This conclusion has not yet been translated into practical policy at our teaching centres, although before long this is likely to happen, if only because of the increasing dearth of 'teaching material' in the children's wards of many hospitals.

CONCLUSION

For many years those working in general practice have pointed out that as, increasingly, all but the more trivial

aspects of medicine tend to be carried out in the hospital rather than in the home, so the life of the family doctor has progressively been deprived of interest and his prestige lowered; and that, since in the last analysis the quality of medical care a community received depends upon on the standard of work of its family doctors, this trend towards hospital doctoring is a retrograde one. If this view is accepted, then I should like to think that, by providing the means for treating sick children at home, we are doing something effective towards re-establishing in a key branch of medicine the crucial importance of the family doctor.

REFERENCES

Bowlby, J. (1951): *Maternal Care and Mental Health.* Geneva: Wld. Hlth. Org. Monogr. Ser.

Gairdner, D. (1956): Proc. Roy. Soc. Med., **49**, 974.

Gillet, J. A. (1954): Brit. Med. J., **1**, 684.

Lightwood, R., Brimblecombe, F. S. W., Reinhold, J. D. L., Burnard, E. D. and Davis, J. A. (1957): Lancet, **1**, 313.

Miller, F. J. W. (1947): Arch. Dis. Childh., **22**, 54.

Idem (1948): Lancet, **2**, 703.

Smellie, J. M. (1956): Brit. Med. J. suppl., p. 256.

Spence, J. C. and Taylor, M. D. (1954): Lancet, **1**, 719.

NOTES ON THE EPIDEMIC OF 'ASIATIC' INFLUENZA ON THE MINES, JULY—AUGUST, 1957

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Now that the influenza epidemic which had swept like a veld fire through the Native compounds of the mining industry has spent itself and all mine hospitals report almost normal conditions, one may well consider the epidemic in retrospect and review the steps which had been taken to cope with the emergency. Furthermore, the lessons learnt from this epidemic may be very useful should further waves of the epidemic recur.

Although approximately 350,000 Native labourers are employed in the gold mining industry, this present review is based on figures from the labour complement of the gold mines of the Central Mining–Rand Mines Group only—altogether 83,467 during July 1957.

The Native Labour Force. This labour force is housed in large compounds, accommodating from 3,000 to 5,000 Natives each. The inmates sleep in dormitories with a capacity of from 16 to 20 in the newer compounds and larger numbers in the older ones. By Government Regulation a minimum of 200 c. ft. room space is allowed for each occupant. The inmates of the compounds are constantly coming and going. The annual labour turnover is almost 100% and these voluntary labourers come from all parts of the Union of South Africa, the British Protectorates of Bechuanaland, Swaziland and Basutoland, and surrounding territories as far north as Tanganyika. It will be appreciated that under these conditions a compound could be expected to be severely affected by an outbreak of influenza.

ANTICIPATORY ACTION

When, therefore, it became known that the influenza epidemic which had started in the East had assumed the proportions of a pandemic and was spreading throughout most of the world, it needed but little deduction to know that, should it come to South Africa, the mines would undoubtedly be heavily affected. Following out this line of thought, it was imperative that steps for coping with the large numbers of sick labourers should be made well in advance. In addition, it was considered that the non-medical officials on the mines should be informed of what might happen. This would serve the double purpose of allaying unnecessary fears which were being engendered by newspaper headlines, and preparing compound officials for what would be expected of them. Forewarned is forearmed—and how true this proved to be!

After a staff meeting of senior medical officers of the Group at which the problem was discussed, the following memorandum was circulated to all mine managers of the Group on 21 June 1957:

'Many rumours and reports have reached this country about the influenza epidemic which is raging in the East, and one is perturbed by the thought that should the disease spread here, large numbers of mine labourers may become incapacitated.

'The reports reaching South Africa seem to carry a disproportionately high news value and have awakened memories of the 1918-1919 epidemics in many people. However, certain facts emerge from these reports which deserve consideration.

'There is no doubt that very large numbers of people are affected. On the other hand, the mortality is negligible. The epidemic may, therefore, be considered as of a benign nature, although highly infectious and spreading rapidly. The incubation period is 2-3 days, and most persons are ill for about 1 week.

'Authorities on world health agree that very little can be done to curb the spread of the disease, so the possibility is not remote that it may well spread to this country.

'One does not wish to partake in encouraging any mass hysteria of a fear for something which may never come to pass, but it is felt that senior officials should be fully aware of measures which may have to be instituted at short notice to reduce the disruption of the labour force to a minimum.

'On the mines we have the advantage of an efficient health set-up which should be able to handle the medical treatment during an epidemic. We have, however, this disadvantage that our labour force, working and living in restricted areas, may be very susceptible to a rapid spread of influenza, and that hospital accommodation might not be adequate.

'A vaccine is being produced in this country. Unfortunately it is expected that enough will only be available for key personnel. The obvious safeguard of mass-immunization is therefore out of the question.

'If an epidemic threatens, the following, in broad outline, would be the steps taken:

(*a*) Personnel would be vaccinated on the basis of available vaccine. Arrangements for the supply of vaccine will be made by this Department in collaboration with the Union Health Department.

(*b*) All Native labourers complaining of feeling ill should be sent to surface as soon as possible.

(*c*) If no more beds in mine hospitals are available, hospitalization should be reserved for those influenza cases with complications, and the others treated in compounds.

(*d*) It would be advisable to reserve a certain area of a compound as an emergency hospital.

(*e*) Compound staff would have to arrange for (i) An organization to deliver food to the patients in their rooms, and (ii) sanitary buckets with suitable screens close to every room. These would have to be changed daily.

(*f*) The Resident Medical Officer will make arrangements for his staff to nurse and treat the patients kept in compounds.

(*g*) An adequate supply of drugs which might be required is being stock-piled by the Central Medicine Company. It will not be necessary at this stage for individual hospitals to increase their stocks.

(*h*) This department will have to be informed daily of all new cases having occurred in the previous 24 hours.

'One wishes again to emphasize that this possible emergency is one which holds no great threat to life and orders or discussions with non-medical staff should stress this. There is absolutely no need to spread the idea that we are faced with anything akin to the previous influenza epidemic. In any case, most of the deaths then were due to pulmonary complications which can today be treated adequately.

'Further circulars in this regard will be issued if and when required.'

It is common knowledge that the usual steps, apart from vaccination, to curb the spread of influenza have hitherto proved singularly ineffective. Hence no precautions were taken in this regard except that it was hoped to isolate the frankly ill.

THE COURSE OF THE OUTBREAK

At the beginning of July, 1957 one or two mines—not of this Group—were said to have noticed a sudden increase in Natives reporting ill with influenza-like symptoms.

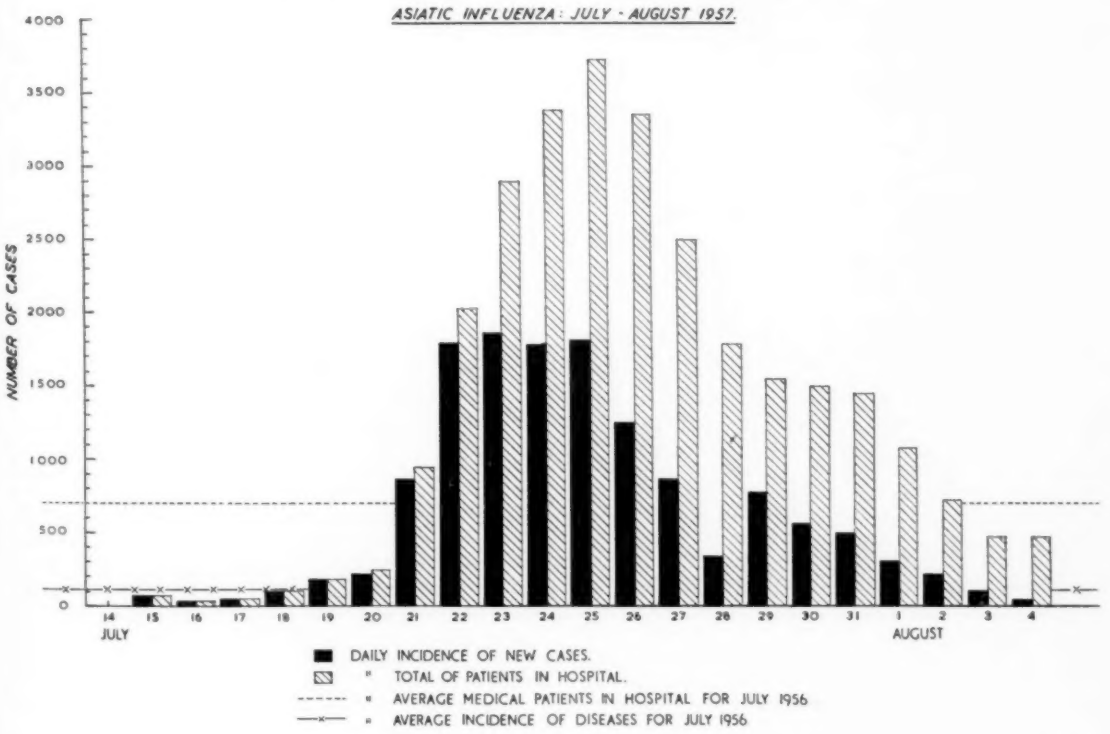
In our Group cases were first admitted from 15 July at City Deep, a mine situated near Johannesburg. On 18 July it started on East Rand Proprietary Mines, this time near Boksburg, and on the next day at Harmony Gold Mining Company at Virginia in the Orange Free State.

By 22 July, i.e. 1 week after the disease had made its appearance on the first of our mines, it had 7 large mines along the Witwatersrand and 1 in the Orange Free State in its grip, 1,789 new cases being reported and 2,015 already in hospital on that day. During the course of the next 3 days it appeared at 3 mines in the Witbank Coal Fields. Although statistics for the first 3 or 4 days are slightly inaccurate, the histogram in Fig. 1 shows the sudden rise in men reporting sick as compared with the normal average for July.

As was anticipated, when cases started being admitted all hospitals were quickly filled up. Special mention must be made of the enthusiastic assistance which mine managers and compound officials rendered towards establishing emergency accommodation along the lines set out in the circular.

Compound rooms were cleared out and cleaned. At first the expected requirements were impossible to assess

FIGURE 1



but, nevertheless, at no mine did we lack accommodation —the cleaning out and preparation of additional rooms always having remained safely ahead of each day's new crop of patients. When we ran out of bedding, emergency mattresses were made by stuffing jute bags with straw, and patients were asked to bring their own blankets.

Lavatory facilities were established outside all rooms. These mostly consisted of sanitary buckets screened off by suitable material. At one mine, where an underground sewer line passed in front of the rooms, a temporary water-borne system was laid on which worked very well.

The details of medical attention were organized by each senior resident medical officer, having regard to the specific conditions pertaining on his particular mine. In general, after the first rush and excitement had subsided, the routine was as follows:

All Natives reporting sick were detained at the compound emergency hospitals, where a medical officer did a round twice daily. Serious cases were sorted out and referred to the mine hospital, while the milder cases were detained in the emergency hospital. Here an experienced medical orderly or nurse took temperatures twice daily and noted, as far as was practicable, any patients who needed more specialized attention. The issue of palliative medicines, mostly salicylates and cough mixtures, was also supervized by this person.

At 2 hospitals in the Group 5th year medical students were temporarily employed. Their main duty was to assist in sorting out the serious cases for the medical officer's more detailed examination, and they spent most of their time at the emergency compound hospitals. These men proved most useful and, apart from the experience they gained, they did an excellent job of work in preventing patients ill with some other fulminating disease, e.g. meningitis, being missed in the rush and not receiving skilled attention for a few hours, which may have meant the difference between life and death. This is an ever-present danger in any epidemic where large numbers of mild cases have to be treated.

Convalescence

As regards convalescence, the usual routine of giving discharged patients a period of light surface work where deemed necessary had to be altered, owing to the large numbers involved. In most cases an extra day's convalescence in the compound proved quite adequate. From the point of view of the possibility of heat stroke in the hotter mines, the large numbers who were ill caused much concern. On the so-called 'hot mines' all Natives are acclimatized for a period of 14 days under very strict supervision in special stopes. Normally any man having been in hospital more than 5 days is re-acclimatized before returning to his normal work. It was soon realized that the acclimatization centres might be over-burdened during the epidemic. It was therefore decided that for the duration of the epidemic only those Natives who were employed on heavy tasks, and who had been away from their underground work for 5 days or more as a result of influenza, or whom the mine medical officer had considered to have had a serious attack, should be re-acclimatized before returning to their normal occupation.

In addition, the attention of underground labour supervisors was repeatedly drawn to the need for keeping a sharp look-out for anyone feeling ill. These precautions worked so well that one is pleased to mention that no case of heat stroke was recorded in this Group during the epidemic.

LABORATORY DIAGNOSIS

Early in the epidemic throat washings were collected and forwarded to the South African Institute for Medical Research for isolation of influenza virus. Unfortunately the various processes required for the isolation of the virus normally take so much time that the epidemic was on the wane before the findings became known. With present-day methods great achievements have been reached in the isolation of viruses, but more rapid means of isolation should be one subject of future research. From an epidemiological point of view it is but faint comfort to have the clinical diagnosis verified after the epidemic has run its course.

CLINICAL OBSERVATIONS

Although the disease ran fairly true to form, as could be judged from such scanty literature as was available at the time, the following impressions gained by one of us (A.O.D.) at the City Deep Central Native Hospital may well be of interest.

On Monday, 15 July amongst the medical admissions to the hospital there were about 10 patients who complained of severe headache and general muscular pains associated with pyrexia. Clinical examination proved negative. These are the usual features of ordinary influenza and this disease is very prevalent amongst our mine Natives at this time of the year.

However, suspicion was aroused as to the possibility of Asiatic influenza because of the very high temperatures (102°—104°F) associated with a normal pulse rate. Although the patients were considerably distressed there appeared to be no clinical evidence of a corresponding constitutional disturbance.

By the end of the week this peculiar type of influenza, since confirmed as Asiatic influenza from the throat washings of some of the patients, had spread with explosive rapidity and resulted in over 2,321 Natives (20·7% of total complement) reporting sick in a matter of a fortnight.

For descriptive purposes this illness can be roughly divided into 3 main groups, namely the very mild group, the moderately severe group, and the group comprising the patients who were comparatively severely ill.

Group I—The Mild Group

About 55% of the total number of patients who reported sick belonged to this group. The main symptoms were headache, generalized pains in the limbs, lumbar back pain and, occasionally, retrosternal pain. The temperature was normal or raised to less than 100°F, the pulse rate normal, and clinical examination negative.

These cases were detained in hospital, or in the emergency sick bays established in the mine compounds, for a day or two, after which period the Natives themselves volunteered the information that they were now perfectly well and wished to return to their normal underground work. Apart from the few whose temperatures had not completely subsided or whose symptoms had not yet abated, the remainder were allowed to resume normal work. The treatment consisted of a salicylate mixture administered twice a day.

One cannot help feeling that in this group are included many patients who, although they complained of headache and so on, were not really ill. During the explosive stage of the epidemic it is quite possible that many Natives reported

sick in the hope that our medicine had some prophylactic value, or possibly also felt the need of the reassurance of a medical examination.

Very few of these cases returned subsequently for further treatment or with a genuine attack of the disease.

Group II—The Moderately Ill Group

Approximately 40% of the total number of Natives who reported sick can be described as having been moderately ill.

The symptoms were more or less the same as for Group I, except that retrosternal pain was more frequently present. Many suffered from tonsillitis, pharyngitis, laryngitis or tracheitis, sometimes associated with a dry unproductive cough or perhaps hoarseness; a few had conjunctivitis and a few mild otitis media. A fair number had definite rigors at the commencement of the attack. Practically all of them had high temperatures and normal pulse rates, but no clinical signs of lung involvement.

The temperatures usually returned to normal within a day or two, and this fall in temperature was usually accompanied by a most striking cheerfulness (almost euphoric) in the patients' general outlook—a complete change from the distress of the previous day or two. Nearly all of them said they were now fit enough to return to their normal underground work and were keen to do so. This observation was in distinct contrast to the ordinary influenza recovery, where the patient is usually left rather debilitated, disinterested and somewhat depressed and usually requiring a few days of convalescent work before being returned to normal underground work.

The cases from this group were treated either in the convalescent wards of the hospital or in the compound emergency sick bays. The only drug treatment employed was salicylates, and nearly all patients were returned to normal within 4 to 5 days.

Group III—The Comparatively Severely Ill Group

This group accounted for approximately 5% of the total. The symptomatology was the same but apart from the usual distress the patients showed definite evidence of constitutional disturbance by having an accelerated pulse rate, even if apyrexial. In some, clinically diagnosable bronchitis was present; in others, a severe laryngo-tracheitis. None showed any signs of encephalitis although one patient was lumbar punctured, as a diagnostic precaution, for meningeal irritation.

Although this group is classified as severe, none could be compared in severity with that of the acute fulminating type of ordinary influenza, which is not infrequently encountered in our mine Natives. At no time was there any anxiety as regards possible mortality in this new type of the disease.

Patients in this group generally took longer to regain a normal temperature and were usually left somewhat debilitated at the end of the attack.

It was also in this group that were most frequently found the patients who were apyrexial on admission, but had rapid pulse rates, and who later developed their pyrexia.

At times it was impossible to distinguish a severe case of Asiatic influenza from an attack of moderate severity of the ordinary type. It is probable, therefore, that cases of ordinary influenza have been included in this group.

Treatment consisted of hospitalization with adequate nursing facilities. The drugs employed were primarily the salicylates supplemented with sulphonamides or penicillin as considered necessary. In only one case was aureomycin or other broad-spectrum antibiotic used. The drugs were given for their possible prophylactic value in limiting the spread of lung involvement. It is not possible to assess the value of these in either influencing the course of the disease or its severity. Hospitalization varied from about 5 to 7 days and was followed by a few days of light surface convalescent work before resuming normal work.

Relapse Rate

The percentage of cases readmitted to hospital after a lapse of 3 to 7 days after discharge was 1·4.

Reviewing, it will be obvious that many cases included in Group I were probably never cases of Asiatic influenza and that others probably suffered from an abortive type of the disease. Similarly, Group III probably includes many cases of ordinary influenza, especially in view of its high incidence at this time of the year. Group II probably reflects a truer incidence of the disease as well as the truer clinical picture. Without the assistance of laboratory tests, an accurate incidence of the disease is impossible to assess.

Hospital Staff

It has been said that it requires an emergency to bring the best out of a man. The influenza epidemic certainly brought the best out of our hospital staffs, considering the way in which they rose to the occasion. Everyone took it for granted that he or she had to do three or four times the normal quota of work. It was remarkable how difficult it was to persuade a staff member with a mild attack of the disease to go home and rest. Unfortunately the epidemic did not spare those people who so ably and gamely wrestled with it. Table I shows the incidence amongst the staff.

TABLE I

Hospital staff	*No. employed*	*No. ill*
Medical officers	20	4
European nurses—male	41	3
European nurses—female	12	2
Native nurses—female	123	6
Unqualified Native male orderlies ..	186	21
Total	382	36

GENERAL OBSERVATIONS

The epidemic swept through the mines with remarkable rapidity, affecting a total of 16% of the labourers to the extent of causing the men to miss working shifts, almost wholly within the course of 2½ weeks.

Although conditions controlling the spread of respiratory infections were more or less similar on all mines, the percentage incidence for different mines varied considerably (Table II). The explanation of this phenomenon, although noticed in all previous influenza epidemics, has still to come forward. Although the severity of any disease is often a matter of opinion varying much from observer to observer, senior medical officers of the mines were asked to grade the patients into 3 categories. These estimates are also shown in Table II.

During an epidemic of this nature doctors are inclined to notice certain common or uncommon features of the disease. The facilities for controlling these observations by strict

TABLE II. INFLUENZA CASES FROM 15 JULY TO 4 AUGUST 1957

Mine	Average No. Employed	No. of Cases	Percentage of Complement	Nature of Disease		
				Mild %	Medium %	Severe %
Blyvooruitzicht	7,373	1,120	15·2	40	50	10
City Deep	11,504	2,714	23·6	55	40	5
Consolidated Main Reef	9,643	842	8·7	67	32	Less than 1
Crown Mines	14,975	1,622	10·8	89	10	Less than 1
Durban Roodepoort Deep	9,544	1,730	18·1	87	8	5
East Rand Proprietary Mines and Rose Deep	16,804	2,437	14·5	70	25	5
Harmony (OFS)	5,658	1,277	22·6	95	3	2
Modderfontein East and Modderfontein B	5,587	991	17·7	10	87	3
Witbank and Van Dyks Drift Collieries	1,774 605	616	25·9	65	29	6
Total	83,467	13,349	16·0			

statistical methods rarely exist—but, then, most of the syndromes described by our early predecessors were the result of careful bedside observations devoid of statistical control but proved by time. For this reason the following points are mentioned in passing:

Several medical officers laid great stress on the appearance of the pharynx, which in most well-developed cases showed a red to purplish velvety colouration of the posterior wall, extending to the soft palate and associated with a mild oedema of the uvula and the surrounding area.

The acute form of the disease seen in the epidemic following World War I rarely if ever occurred, although the following case from Harmony Gold Mining Company is worth mentioning: 'A boy collapsed in the compound and was brought in semi-comatose, with marked cyanosis and with almost heliotrope colouration of the fauces. He was pulseless and collapsed, but responded dramatically to ACTH. After 24 hours of routine influenza treatment he was considered fit, but was kept longer for observation.'[1]

The following observation from Crown Mines is interesting: 'Temperatures on admission were reasonably in proportion to the degree of illness, but not so on the second and third day when temperature had little bearing on severity. In fact, speaking generally, the height of the temperature was not a good indication of the severity of the illness.'[2]

Mortality

One death, occurring on 29 July at Durban Roodepoort Deep, might possibly be ascribed to influenza. The patient was admitted in a serious condition with signs of acute respiratory involvement and died 2 hours later, notwithstanding vigorous treatment. The post-mortem was conducted by Dr. L. E. Miller, who had experience of the 1918 pandemic. The lungs showed early broncho-pneumonia conforming to the influenzal type. Laboratory specimens were taken but no virus was isolated.

Disruption of Labour

The epidemic was responsible for the loss of roughly 35,000 working shifts over and above the normal degree of absenteeism. Total shifts lost because of disease was approximately 3 times the usual monthly average.

On the face of it one would have expected considerable disruption of gold production. The actual loss of production was, in fact, very slight. This can be explained in two ways: Firstly by the fact that on the average men only stayed off work for a few days at a time. During this period those remaining behind maintained the work rates of their respective gangs by each doing a little more work than usual. Secondly, it is probable that managements, where possible, suspended less urgent work and concentrated what labour force was available on essential work only. It is obvious that both these factors can be expected only to operate for short periods at a time, and that a normal production rate would be impossible to maintain for any great length of time under such adverse conditions.

Table III shows comparative labour statistics for June and July 1957. If it be assumed that the other conditions on the mines did not change very significantly during the two months, the difference in shifts lost could be roughly ascribed to the epidemic. It must be remembered, of course, that the epidemic extended into the first few days of August although it was then rapidly dying out. Table III is therefore not a complete reflection of the conditions, but it does show the trend.

TABLE III

	June 1957	*July* 1957
Total possible working shifts	2,216,682	2,253,609
Shifts lost through disease	17,510	53,228
Percentage of shifts lost	0·79	2·36

To sum up: The disease was mild, without serious complications and with negligible mortality. It never at any time presented any major medical problem, unless one includes the provision of emergency accommodation. The patients, however, suffered considerable distress and discomfort for a day or two. To the mining industry it meant the loss of many working shifts, together with the disorganisation that goes with it.

SUMMARY

These notes describe the steps which had been taken to cope with the epidemic of so-called Eastern or Asiatic influenza on the mines of the Central Mining-Rand Mines Group during July-August 1957. The clinical course of the disease ran true to elsewhere reported form. Statistics showing the effect on the Native labour force are quoted.

OPSOMMING

Die stappe wat gedoen is om die epidemie van sogenoemde Oosterse of Asiatiese Griep van Julie-Augustus, 1957 op die myne van die Central Mining-Rand Mines Groep die

hoof te bied, word beskryf. Die kliniese voorkoms van die siekte het nie veel afgewyk van beskikbare beskrywings nie. Die uitwerking van die epidemie op die naturelle-arbeidsmag word statisties aangetoon.

We are indebted to Dr. A. J. Orenstein for his interest and encouragement. We should also like to thank Mrs. E. A. Campbell for her assistance in preparing this manuscript.

REFERENCES

1. Marks, J. H. (1957): Personal communication.
2. Berjak, J. (1957): Personal communication.

THE ANAESTHETIST'S APPROACH TO HIBERNATION THERAPY IN THE TREATMENT OF PSYCHONEUROSIS

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Certain patients undergoing treatment for psychoneurosis, have been found to benefit from what is known as 'hibernation therapy' as an adjunct to psychotherapy. In Durban this falls within the province of the anaesthetist, and over the last 2 years I have treated 58 cases. The problem here is rather different from that posed by hibernation for surgery, in that the treatment is repeated several times in the same patient, and that prolonged unconsciousness rather than analgesia is aimed at. Results are best if unconsciousness lasts at least 6 hours, and each patient receives between 5 and 8 treatments, the number being decided upon by the psychiatrist.

PROCEDURE

The method first employed was a slight modification of that described by Baxter *et al*[1]; 1/100 gr. of atropine was given subcutaneously, and 1 hour thereafter 50 mg. of promethazine hydrochloride (Phenergan), 250 mg. of diethazine hydrochloride (Diparcol), 50 mg. of chlorpromazine hydrochloride (Largactil) and 100 mg. of pethidine, mixed together and diluted to 20 c.c. in normal saline, were given intravenously. The time taken for the injection was 5 minutes.

The atropine appeared to serve no useful purpose, however, and caused unnecessary discomfort, and the unconsciousness lasted only 3-4 hours. Contrary to Baxter's experience, 6 out of the 10 patients so treated developed painless thrombosis of the injected veins. A normal saline intravenous drip was therefore set up, and the above mixture was injected into the rubber tubing high up near the drip chamber, over 10-15 minutes, the atropine being omitted. Sleep now lasted approximately 6 hours, but thrombosis was still troublesome and was a cause of some concern as several treatments are given to each patient. This has been largely obviated by thoroughly mixing the drugs with 250 c.c. of normal saline and administering as an intravenous drip over 20 minutes. The arm is elevated on a pillow to facilitate venous drainage and after the drip has been discontinued it is gently massaged cephalad to ensure that no solution lies stagnant in the veins. Redness sometimes occurs along the vein; this may be due to the fact that pethidine is a histamine liberator.[2]

Unconsciousness is deep for about 6 hours, and the patient is very drowsy for a further 2-4 hours. Diparcol has recently been omitted, with no appreciable difference.

Treatment is repeated daily in the early morning, the best results being obtained if a day free of treatment is allowed on the 4th and 6th days. A barbiturate is prescribed at night.

Largactil has been found to be the ataractic drug of choice in this series; other drugs have not given the same depth or length of unconsciousness. 'It (chlorpromazine) remains the ataractic of choice in the treatment of psychoses, and in the mental hospitals it is used on a greater scale than other ataractics'.[3]

Nursing

A special nurse is in attendance during the time of hibernation to watch the pulse and respiration and to control the restlessness or even somnambulism that develops in certain patients.

Food

Food is withheld for 4 hours before treatment, but this is no hardship since treatment begins at 7.30 a.m. As soon as consciousness has fully returned food and drink is given but kept lukewarm in case the heat-regulating mechanism has not returned to normal. The patient is encouraged to have a good dinner in the evening, because this is really the only meal that is taken.

OBSERVATIONS

Pulse Rate. As the drugs begin to take effect there is usually a tachycardia of 100-120 per minute, and a feeling of palpitations. The latter soon passes off as sedation comes on, but the tachycardia may persist up to an hour. In 2 cases extrasystoles were noticed as tachycardia ended, and remained for 4 hours. In both cases this occurred with all treatments given.

Blood Pressure. This usually remains at the patient's normal level but may fall a little—rarely more than 10 mm. Hg. This is probably due to the fact that no change in posture or surgical manoeuvre occurs.

Tolerance. A striking feature is the rapid development of tolerance to Largactil and Phenergan. By the third treatment an extra 12 mg. of each is required to produce 6 hours' sleep, and by the end of a series many patients are receiving almost twice the initial dose.

Skin. Pallor is usually marked, but the skin remains warm.

Temperature. The rectal temperature remains constant, probably because the patients are in bed and covered.

Respiration usually remains unchanged in rate, but becomes somewhat more shallow. One rather feeble elderly

woman became cyanosed, but the administration of oxygen by nasal catheter for 5 minutes sufficed to tide her over this period. Since then elderly or feeble patients are given only one-half the dosage of the drugs.

Restlessness may occur, but is easily controlled in most patients. Some may develop somnambulism, and must be restrained. Three patients, all of whom were drug addicts, became so excited that treatment had to be discontinued. Most patients, however, sleep quietly.

Results

As this paper deals only with the anaesthetic approach to the subject, results will not be discussed here, but they are most encouraging. It must be stressed that the treatment is to be combined with psychotherapy.

SUMMARY

A method of inducing hibernation for psychiatric treatment is described. Patients' reactions, and difficulties likely to be encountered, are discussed.

REFERENCES

1. Baxter, R. W., Bolster, J. A. and McKechnie, S. (1954): Anaesthesia, **9**, 79.
2. Schachter, M. (1925): Brit. Med. J., **1**, 324.
3. Editorial (1957): S. Afr. Med. J., **31**, 161.

PHALLOPLASTY

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Few deformities cause more psychic trauma in the male than loss of the penis or testicles and it is fortunate that in the past 20 years advances in surgical techniques have allowed attempts at reconstruction of the missing organ.

Interest in phalloplasty was stimulated by the genital losses occurring in the 1914-18 war and reconstruction became possible with the development by Gillies and Filatoff of the tubed pedicle flap.

Ideally, the final result of a phalloplasty should enable the patient to urinate in a standing position, should be cosmetically acceptable and should enable him to have intercourse.

Bogoraz[1] in 1936 and later Blum[2] in 1938 cut the bony attachment of one corpus cavernosum, freed the bulb of the spongiosum and slid both forwards, covering them with local flaps. This produced a very short penis.

Subsequent attempts to form a penis all used an abdominal tubed pedicle as the basis, with the exception of the method of Goodwin *et al.*[3] and Chapell,[4] who used scrotal skin to construct both the urethra and the new penis in direct continuity with the stump. They state that the mid-line scrotal skin is hairless and that hair in the urethra has not been a problem in these two cases.

The various authors differed only in their methods of forming the urethra and the technique of attaching the tube to the penile stump.

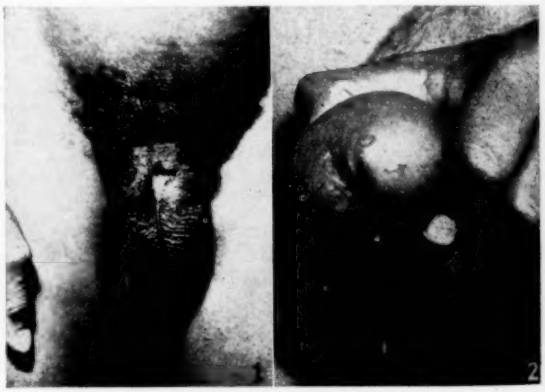
Frumpkin[5] treating cases from the Russian front, used an abdominal tubed pedicle enclosing a strip of costal cartilage. He then embedded the cartilaginous strut in the remains of the corpora cavernosa to allow erection of the reconstructed phallus. In his cases the urethra was formed by the attachment to the ventral surface of the first tube either of a second smaller pedicle from the forearm or of one from the mid-line of the scrotum. The latter has the disadvantage of including coarse hairs in the urethra and in both forms the penis has a bizarre composite appearance. Bergman *et al.*[6] rolled a urethra from the inferior surface of their penile tube and covered the resultant defect with scrotal skin.

Gillies,[7] and later Farina *et al.*,[8] rolled a tube on the abdominal wall to produce a urethra and surrounded this with another tube pedicle (Figs. 3, 4 and 5) thereby producing a composite homogenous penis. If, however, Gillies' original measurements are followed, this penis tends to be too large. Ali[9] reporting on a more recent case, apparently did not construct a urethra.

In the case presented here, I have used the method first described by Gillies, but, as mentioned above, the original measurements are rather generous and the final result will need further trimming.

CASE REPORT

B.M., a Native male—19 *years old*, was admitted from the Transkei with the story that during a ritual circumcision part of the penis had been chopped off and the remainder had sloughed away with the subsequent infection. Examination showed a healthy young Native male in a very depressed state of mind with complete loss of the penis (Fig. 1). A remnant of the corpora cavernosa could still be felt and due to marked local scarring, there was only a pin-hole meatus.



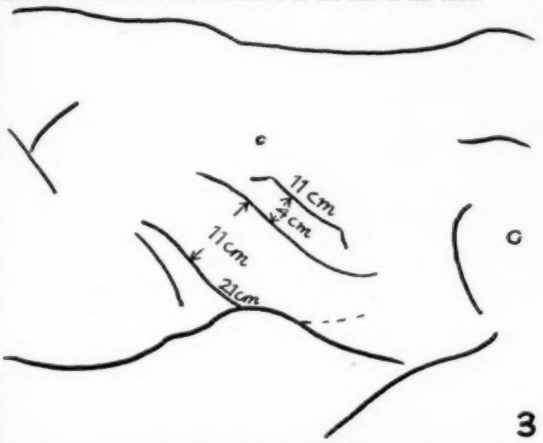
Figs 1 *and* 2. Fig 1, Pre-operative condition. Fig 2, Final result of glans.

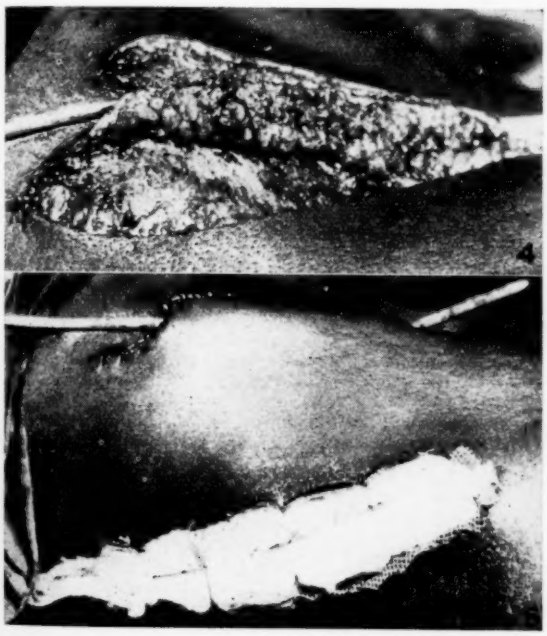
29 *August* 1955 (Figs. 3, 4 and 5). 1*st stage phalloplasty*. Small tube rolled on the abdomen and covered by the larger adjacent flap. Multiple Z-plasty done on the stenosed urethral aperture.

29 *September*. Infected haematoma under the flap drained.

13 *October*. 2*nd stage*. The large flap was detached from the abdominal wall and rolled into a tube containing the smaller tube formed at the first operation.

12 *January*, 1956. 3*rd stage*. Upper end of the tube pedicle divided and new urethra advanced to the end of the tube.



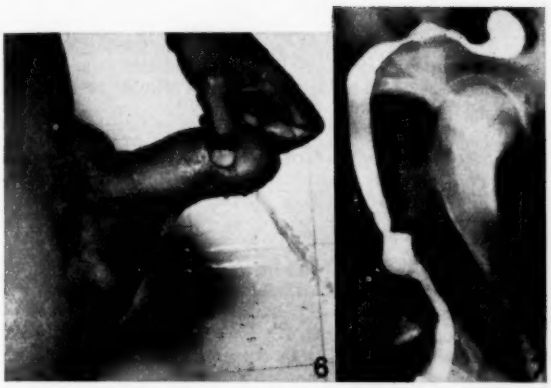


Figs 3, 4 *and* 5. Fig 3, Diagram illustrating size and position of flaps (modified after Gillies[7]). Fig 4. Abdominal tube rolled around catheter to form urethra. Fig. 5, Urethra healed, shaft of penis being formed.

26 *March*. 4*th stage*. The base of the pedicle was partially divided and the tube twisted to the pubic region. The urethral aperture was anastomosed to the lower opening of the inner tube, using a series of interlocking Vs. Perineal urethrostomy done.

13 *September*. Base of flap adjusted and excess discarded.

14 *February* 1957. The end of tube was modelled to resemble the glans of a normal penis and the distal half of the penis thinned. (Fig. 2).



Figs 6 *and* 7, Fig. 6 shows that the patient has a normal flow of urine and the urethrogram (Fig. 7) shows a urethra without any stenosis.

No original technique is presented in this article. The case is recorded to emphasize what can be done for these unfortunate patients and very briefly to review the literature. How far have we succeeded in satisfying the criteria put forward in the opening paragraph? Figs, 2, 6, 7 and 8 illustrate the present status of the patient. He can urinate in a standing position; the result is cosmetically acceptable, if a bit large; intercourse is probably precluded by the size and the lack of a supporting rod of cartilage. This could be remedied later.

←Fig. 8, Final result.

SUMMARY

A case of total reconstruction of the penis and a brief review of the literature are presented and discussed.

I wish to thank Mr. N. Petersen, Head of the Department of Plastic Surgery, and Mr. D. S. Davies for their encouragement and advice, and Mr. B. Todt for the clinical photographs. I am indebted also to Dr. N. H. G. Cloete, Medical Superintendent, and Prof. J. H. Louw, Professor of Surgery, for permission to publish.

REFERENCES

1. Bogoraz, N. A. (1936): Zbl. Chir., **63**, 1271.
2. Blom, V. (1938): J. Mt. Sinai Hosp., **4**, 506.
3. Goodwin, W. E. and Scott, W. W. (1952): J. Urol., **68**, 903.
4. Chapell, B. S. (1953): *Ibid.*, **69**, 703.
5. Frumkin, A. O. (1943-44): Amer. Rev. Soviet Med., **2**, 14.
6. Bergman, R. T., Howard, A. H. and Barnes, R. W. (1948): J. Urol., **59**, 1174.
7. Gillies, H. and Harrison, R. J. (1948): Brit. J. Plast. Surg., **1**, 8.
8. Farina, R. and Freire, G. de C. (1954): *Ibid.*, **14**, 351.
9. Ali, M. (1957): J. Int. Coll. Surg., **27**, 352.

FEDERAL COUNCIL MEETING, DURBAN

At the 6-monthly meeting of the Federal Council of the Medical Association of South Africa the following (in addition to items mentioned in last week's *Journal**) were amongst the subjects dealt with: Increase in members' capitation fee; reorganization of the Association (preliminary proposals); draft rules concerning professional ethics and expulsion from the Association; medical insurance plan to be sponsored by the Association (preliminary proposals); threatened increase in the price of drugs supplied to doctors.

The meeting was held in the B.E.S.L. Hall, Old Fort Road, Durban, on 11, 12 and 13 September 1957, and extended over 3 sessions (morning, afternoon and night) on each day. The new Chairman of Federal Council, Dr. J. H. Struthers, presided, being relieved occasionally by the Vice-chairman, Dr. E. W. Turton. Also present were the President of the Association (Dr. H. Grant-Whyte), the retiring Chairman (Dr. A. W. S. Sichel), and the Hon. Treasurer (Dr. J. D. Joubert). The total attendance was 51, plus 4 personal proxies.

INCREASED CAPITATION FEE

At its meeting in March 1957 Federal Council considered a report from the Head Office and Journal Committee on the Association's annual financial deficit. The matter was referred back for further consideration, and at the present meeting the Head Office and Journal Committee recommended that the annual capitation fee should as from 1 January 1958, be raised by £2 2s. 0d. to a total of £4 4s. 0d. A report by the Hon. Treasurer was submitted (see page 993 of this issue of the *Journal*).

In the course of the debate that ensued Dr. L. S. Robertson pointed out that in accordance with the Association's constitution any resolution taken at this meeting to increase the capitation fee would require to be confirmed at the next meeting, and that this, would present an obstacle to the implementation of the resolution as from 1 January 1958. The date when the increase is to become effective was accordingly deleted from the resolution. The meeting was informed that the proposal to increase the subscription was supported by the East Rand, Northern Transvaal and Border Branches.

An amendment deferring consideration of the proposal until the next meeting was lost by 17 votes to 36, and the motion to increase the subscription was carried by 44 votes to 9.

REORGANIZATION OF THE ASSOCIATION

This matter was discussed on a memorandum which Dr. Sichel had drawn up at the request of Federal Council (see page 994 of this issue of the *Journal*). It was based on the view that Federal Council, which at present consists of 59 members, was too large for executive work and its 6-monthly meetings too expensive for Association funds. The memorandum proposed its replacement by a Federal Assembly to deal mainly with questions of policy, which should meet annually (concurrently with the Annual General Meeting of the Association and, where possible, with the Medical Congress), and a small Council to carry out executive functions within prescribed policy, which should meet at least 3 times a year (besides a meeting at the time of the annual meeting of the Federal Assembly). The memorandum proposed that the Assembly should consist of representatives of Branches elected triennially, much as members of the present Federal Council are elected, together with one representative of each Group of the Association, and the members of the Council. The Council, it was proposed, should consist of 12 members elected triennially by Association members on a geographical basis (e.g. at least 1 member and not more than 4 members for each province) and the President, President-elect and Hon. Treasurer *ex officio*. The Council would appoint the standing committees the members of which need not necessarily be members of Council. For each triennium the Assembly would elect its own chairman and the Council its own.

It was proposed that the travelling and subsistence allowance of Council members should be a charge on the general funds of the Association, but that that of the Federal Assembly should be met out of Branch or Group funds, each Branch being entitled to send all its representatives to a meeting of the Assembly, or a lesser number with the right to vote by proxy.

It was decided, on Dr. Sichel's motion, to refer the memorandum to the Executive Committee for consideration and report.

PROFESSIONAL ETHICS AND EXPULSION

A letter on this matter from the Association's attorneys (Messrs. Bisset, Boehmke and McBlain) was considered. The letter contained a draft for an amended Article 9 (Expulsion) giving power to Federal Council, on representation by, and after due enquiry by the ethical committee of, a Division or Branch to expel any member whose conduct should be held by Federal Council to have been such as to render him liable to expulsion under the Articles. The draft article provides that the member impugned is to be given due notice of the enquiry by the relative ethical committee and by the Federal Council and the opportunity to defend himself in writing or in person. A majority of two-thirds of those present and voting at the Federal Council meeting will be required to effect expulsion. The member impugned will be precluded from effectively resigning his membership until the enquiry is completed and the decision of Federal Council made known.

The attorneys' letter also submits draft for new Article 29 *bis*, *tres* and *quat*. giving Federal Council power to make Rules governing the ethical or professional conduct of Association members (by a two-thirds majority) and to make Rules of procedure governing enquiries into complaints regarding ethical or professional conduct, and providing that in the event of any conflict between any Rule of the Federal Council on these matters and a Rule of a Division or Branch, the former Rule shall prevail.

The proposed rules will cover the ground of the existing Article 30 *bis* (authorizing Federal Council to frame ethical Rules 'in any case of emergency'), which will fall away. A consequential amendment to Article 10 (*c*) is also suggested.

When Articles as above-mentioned have been adopted and registered, says the letter, Federal Council will have unequivocal power to make Rules of procedure in these matters.

Federal Council decided to accept the attorneys' opinion and to instruct them to take the necessary legal steps to bring the proposed amendments into effect.

MEDICAL INSURANCE PLAN

The report of the Subcommittee on Economics of Medical Practice, submitting preliminary proposals for a Plan of medical insurance, is published on page 996 of this issue of the *Journal*. It was debated at some length and the principle of the scheme was approved on a vote, on the assumption that no expense would fall on the Association. The Southern Transvaal members of Federal Council were appointed to form the Committee, with Dr. M. Shapiro as convener.

THREATENED INCREASE IN PRICE OF DRUGS TO DOCTORS

A debate took place on the resolutions† which were taken by the Council for the Pharmaceutical Trade and Industry on 6 April 1957 in favour of increasing the price of drugs supplied to doctors (and dentists and veterinarians) to 10% off the established consumer price or, if there is no established consumer price, trade price plus 35% (except where there is no chemist and druggist in business within a radius of 5 miles, when the discount is to be 25% or the price is to be trade price plus 10%). It was reported that on 3 July a deputation from the Medical Association led by Dr. Vercueil and including Drs. Turton, Agranat and Gross met the Council for the Pharmaceutical Trade and Industry. The deputation expressed surprise that action of this kind should have been taken while

* Report (1957): S. Afr. Med. J., **31**, 945, 966.

† Report (1957): S. Afr. Med. J., **31**, 624, (22 June 1957).

negotiations were proceeding between the Association and the Pharmaceutical Society, and characterized the resolutions as punitive in character and designed to apply sanctions to the medical profession. They pointed out that dispensing by doctors was gradually decreasing and ought not to be considered a major problem. The proposed increase in the price of medicine would deprive many of the poorer class and non-Europeans of the medical services and medicines they needed. The deputation pointed out the possibility that the Government might appoint a commission of enquiry into the cost structure of medicine.

Dr. Sichel reminded Federal Council that a joint committee had been set up with the Pharmaceutical Society to deal with complaints from either side, and that the present action seemed to be a spanner thrown into the works. On the motion of Dr. M. Shapiro it was resolved that Federal Council viewed with grave concern the proposals with regard to the cost of drugs to doctors, and also that the Pharmaceutical Society be informed that unless the proposals are repudiated by the Society the Association will not be prepared to negotiate with them. Accordingly, the Subcommittee for Liaison with the Pharmaceutical Society was reappointed as a vigilance committee only.

PRESENTATIONS

On behalf of members of Federal Council the President of the Association, Dr. H. Grant-Whyte, made a presentation to Dr. A. W. S. Sichel, retiring chairman of Federal Council, of a silver tea and coffee service and tray, and a leather portfolio. In expressing his thanks Dr. Sichel said that throughout his 12 long years in the chair he could not have carried on without the co-operation that his fellow members had accorded him, which he hoped would be extended to his successor. He greatly appreciated the handsome gifts he had received, but still more the gesture that lay behind the action. He had had much joy in the companionship and friendship of his colleagues over so many years.

The President also made a presentation on behalf of the members to Dr. J. S. du Toit, retiring President of the Association, consisting of a silver soup tureen and silver soup bowls, in recognition of his many years of devoted service to the Association.

THE RAISED ASSOCIATION SUBSCRIPTION

J. D. JOUBERT

Honorary Treasurer

At the last Federal Council meeting (March 1957), in Johannesburg, the financial state of the Association was fully discussed. I outlined the increase in subscriptions that had taken place from £1 8s. 6d. in 1927 to £1 11s. 0d. in 1945 and to £2 2s. 0d. in 1953. We compared our annual fee to that paid in other countries. In England the fee to the British Medical Association used to be £3 3s. 0d., but it is more now; in Canada it is 40 dollars; in other countries it has also increased and in South Africa dentists pay £6 6s. 0d. The capitation fee for the World Medical Association is steadily increasing from 20 Swiss centimes to 1 Swiss franc.

On the expenditure side everything has gone up. With the growth of the Association we have had to employ more staff, and during this year approximately £3,000 will be spent in connection with the branch office in Pretoria, a most essential service. With the increased cost of living our other officials, secretarial staff etc. are all receiving increased salaries. Office rentals, stationery, post office and telephone accounts—in fact everything— has gone up in price.

One big item of expenditure, viz. that in connection with our investigations into the economics of medical practice, cost the Association £3,000 to £4,000 and this really precipitated a state of affairs that was in any case looming on the horizon, and at the end of 1956 we were about £3,000 short, as predicted by Dr. J. S. du Toit at Vereeniging when he was still Treasurer.

I valued the advice given by members of the Federal Council at the meeting in March of this year, and came back to Cape Town with the firm determination to see if it could not be made possible somehow to make ends meet without raising our subscriptions. After prolonged discussions with the Business Manager and with our Secretary, and after repeated debates in the Head Office and Journal Committee, it became more and more clear to us all that this was a hopeless task and that we must go to our members for increased fees. I will mention again the various points that were raised at the last Federal Council Meeting and also others that were discussed at Head Office and Journal Committee meetings.

1. Arising out of Dr. Schaffer's report, it was suggested that Dr. Sichel be asked to draft a memorandum for the reorganization of the Medical Association, one of the objects being to effect a saving in delegates' expenses. This he has done in a comprehensive and practical way and you will be asked to express your feelings on this very important subject.

2. The importance of personal contacts with Branches and Divisions through our Secretaries and other high-ranking officials of the Association was stressed. The importance of this is fully realized and it is hoped that before long arrangements will be made for suitable transport facilities for our Secretary and Assistant Secretaries so that close liaison can be maintained between the main offices and Branches and Divisions.

3. Thus far our Business Manager has visited the various advertising houses only once a year. Head Office and Journal Committee feel that this should be extended to 3 times yearly and that in this way revenue from advertising could be greatly increased.

4. It has been suggested that profits from advertising should be set aside for development of the *Journal* and not be absorbed into general revenue. In view of our present financial state, we recommend that, as in the past, such profits be pooled in the general funds.

5. It was similarly mentioned that profits from our Insurance Agencies might be given to the Benevolent Fund. Because of our financial position we recommend that this matter be left *in status quo*.

6. Everything possible is being done to recruit new members. It is felt that much could be done by members of the Association who know of non-members, by impressing on them what the Association has done and is doing for medicine as a science and for the welfare of its members.

7. The *S. A. Journal of Laboratory and Clinical Medicine* is being run at a loss. We feel it is a good journal and that it fulfils a need. The Business Manager is investigating the possibility of making this journal available to every member of the Association in the hope that advertisers may be prepared to advertise in this quarterly Journal as well as in our weekly *Journal* and that the increased revenue so derived may cover the cost of the printing for all our members.

8. We are paying much more for rentals, partly because rents have risen, partly because Head Office required much more space and thirdly, because of the need for office accommodation in the Transvaal. Medical House (Pty.) Ltd. are paying 6½% to the Benevolent Fund on about £30,000, whereas in fact they should perhaps be paying only 5½%, this being the current interest on absolutely safe investments over a long period. In this way we could save £300-£400 a year, for Medical House (Pty.) Ltd. must in turn charge the Association higher rentals to balance their turnover. This saving, however, represents only about 1s. per member per year, and it is felt that no one would begrudge this being paid into the Benevolent Fund.

9. The Agencies are not proving a great source of revenue, but we are not losing on them and, as they are providing our members with an essential and useful service, we should continue running them.

10. The question whether we should invest in a calculating machine and so dispense with some of our clerical staff was gone into by the Secretary and the Business Manager. They interviewed representatives from various firms and these representatives as well as our officials agreed that in our particular type of office set-up, we should not effect a saving by getting one of the machines at present available.

THE DEFICIT

In 1956 we were roughly £3,000 down. We estimated a deficit of £7,000 for 1957, and the figures so far available for the first half of the year show that this estimate was near enough correct.

Looking at the figures through optimistic eyes, I have calculated that on the income side we might be better off by £1,500, made up mainly by advertising, and on the expenditure side we may be able to save £500 in all; so that our estimated deficit of £7,000 might perhaps become £5,000. But we cannot rely on this and it is only safe to work on an estimated deficit of £7,000 for this year. That means that by the end of 1957 we shall be £10,000 down.

Now, if we raise our subscriptions by £2 2s. 0d. per member, we shall get an increase in income of £11,550 for 1958. This will wipe out our accumulated deficit of £10,000, and we shall have £1,550 at the end of 1958, not as profit but as an amount with which we can reduce the possible estimated deficit of £7,000 for 1958 if we did not raise the subscriptions. In other words, all things being equal, with no further increases in income or expenditure, we should in another 5 years' time, be back where we were at the end of 1955.

Some of us have argued that there is no need to get back to quite the same degree of solvency that we had in 1955; in other words, that there is no need to wipe out the deficits of 1956 and 1957 as long as our accounts balance in the future. If we examine our Balance Sheet of December 1956 we find that we possess only the following: (*a*) landed property £7,000, (*b*) office furniture, equipment, etc. £4,000, and (*c*) investments £19,000. Item (*b*) we cannot count, which means our reserves and securities amount to about £26,000, and at the end of 1957 will be only £19,000. This, to my mind, is too small an amount in a concern where the total yearly turnover amounts to £63,000 and I think we shall feel more secure if we can at least be sure that we are going to reach the same position as we had at the end of 1955.

If, then, you will agree that for the moment we have exploited all the means of income, and that we have saved money wherever possible and practical, I hope that you will further agree on the suggested method and degree of improving our position, namely an increase of £2 2s. 0d. in membership fees from £2 2s. 0d. to £4 4s. 0d. per year.

WHAT THE ASSOCIATION HAS DONE

This increase has to be justified to our members. The report thus far, stressing as it does the rise in costs, the expansion of services etc., explains the need for the rise in fees. But for those who may feel resentful at having to pay more, may we take the liberty of pointing out what the Association has achieved and what it really means to every medical man in this country.

A. Those who read the *Journal* regularly will have no doubt about its value to medicine as a whole in South Africa. The printed material is mostly of a high standard, and there is an abundance of useful and helpful information, much of which is peculiar to South Africa. I feel confident that it compares very favourably with other journals of a similar nature the world over. I should like, however, to take this opportunity of pointing out that the *Journal* is *our* journal and that it is what we make it. It is no good criticizing it and saying the reading matter is of no use if we ourselves are not prepared to contribute to it. Let us report our interesting cases, or ask for advice concerning difficult and puzzling cases. Let us report meetings, symposia, results of investigations and experiments, outbreaks of disease and epidemics and methods of coping with these. Let us inform others of useful tips, bits of technique, helpful and perhaps improvised instruments, surgery designs etc., etc. And lastly, let us make wider use of the correspondence columns.

B. Our clinical meetings not only keep us in touch with our colleagues but help to further our knowledge and keep us informed of what is happening in the medical world.

C. Our Association provides us with an organization that can oppose any interference with our rights as citizens of a democratic state. We have an organization that is at all times organized and ready to cope with the situation in peace and in war. We cannot afford to be lone individuals because then we shall be easy prey to political influences, the whims and fancies of State departments, legal opinion etc. The following are but a few instances when the Association as a whole made itself felt: (1) The National Health scheme, (2) the Hospital Ordinances, (3) Income Tax, (4) Amendments to the Medical, Dental and Pharmacy Act.

D. From a purely materialistic point of view, our Association has done a great deal for every doctor in South Africa:

1. Medical Aid Societies' fees are constantly being revised and brought into line with the present-day cost of living, and by our organized and concerted opposition to the exploitation of the medical man by companies who merely want to make money out of us, we try to confine membership of Medical Aid Societies to the right type of person. To achieve all this costs money. The time of our Assistant Secretary in the Cape has mostly been occupied with this type of work, and the Meetings of the Central Committee for Contract Practice involve the Association in a good deal of expense. Dr. L. O. Vercueil estimates that the additional fees which the profession will receive as the result of the new Medical Aid tariff will amount to £300,000 a year.

2. Police cases, gaol work, mental institutions—all these are now paying increased fees, almost amounting to Medical Aid Society fees. Compare this with the miserable 2 guinea and 5 guinea fees that were paid at one time.

3. Workmen's Compensation Act fees have gone up twice, so that now we get a reasonable fee for this type of work.

4. Railway Medical Officers' fees have risen a great deal and the representations that have repeatedly been made on behalf of the District Surgeons' Group have now borne fruit.

5. Benefit Societies were at one time exploiting medical men and were getting our services on contract for ridiculous payments. A close eye is now being kept on these organizations; every appointment is scrutinized and medical men are advised when the terms of contract are not to their advantage, so that such positions can be avoided.

6. By being a member of the Medical Association of South Africa we get the *British Medical Journal* for £2 2s. 0d. instead of £4 4s. 0d.

7. When we travel in other countries we appreciate the value of being a member of what really amounts to a world-wide club.

E. Lastly, what has been done for the medical practitioners in the Government employ? Evidence of its material value is found in the gratitude of the District Surgeons, who are making a donation to the Benevolent Fund in recognition of what the Association has done. More will be done if the Association is asked to help. In any case the general services which the Association renders to private practitioners are of equal value to full time medical officers. The number of full-time men who are members of the Association is small but they will never find the Association lacking in its support of their welfare.

3 September 1957

REORGANIZATION OF THE MEDICAL ASSOCIATION

A. W. S. SICHEL

Ex-chairman, Federal Council

The Medical Association of South Africa was established in 1927 as a corporate group of Branches of the British Medical Association. Its constitution, drawn up after discussions in Bloemfontein in which the late Dr. Alfred Cox, then Secretary of the British Medical Association, took part, was modelled to a considerable extent on that of the British Medical Association. Although autonomous within its own sphere of action, no alteration could be made to its constitution by the Medical Association of South Africa (B.M.A.) without the prior consent of the parent body.

In keeping with the times and the development of Dominion Status within the Empire, in 1945 the Medical Association of South Africa (B.M.A.) negotiated with the parent body to attain

an independent status so that it ceased to be a group of Branches within the British Medical Association but became affiliated to that Association—and later to the Canadian Medical Association.

The Medical Association of South Africa today consists of 14 Branches and has a membership of 5,500. The administration of its affairs is vested in the Federal Council, the members of which are elected by the Branches for a term of 3 years on a numerical basis proportionate to the number of members in each Branch. During each triennium Federal Council elects an Executive Committee and certain standing committees. In the interim between meetings of Federal Council the business of the Association is carried on by the Executive Committee, which consists of 7 elected and 3 *ex officio* members. No definite geographical distribution is laid down as regards membership of the Executive Committee, except for the proviso that not more than 3 members can represent any one Branch.

Originally it was laid down that there should be 4 meetings of Federal Council in each year, but this rule was amended later to allow a lesser number of meetings, provided not less than 2 were held in each year.

Because the Medical Association of South Africa is registered under the Companies Act, an Annual General Meeting must be held to transact the statutory business required by Company law, and each succeeding meeting must be held not longer than 15 months from the date of the preceding Annual General Meeting. The business of the Annual General Meeting can be transacted provided 50 members of the Association are present in person or by proxy.

The management of the financial and business side of the Medical Association of South Africa, including the publication of its journals, is vested in terms of By-Law 58 in the Head Office and Journal Committee, consisting of the Cape Western Branch members of Federal Council. This Committee, too, is responsible, subject to the approval of Federal Council, for the appointment and supervision of the full-time officials and the general staff of the Association.

Contract-practice matters are dealt with, within the policy of the Association, by the Central Committee for Contract Practice, which meets usually twice a year, before the meetings of Federal Council. Urgent business is handled by an Executive Committee of the Central Committee for Contract Practice, consisting of the Transvaal members of the main Committee. Each Branch of the Association is responsible for contract-practice matters within its own area, and provision is made for a liaison between Branches where problems common to more than one adjacent Branches have to be considered.

With the increase in membership of the Association in the past few years, it is apparent that Federal Council, by virtue of its method of election, has become too large and unwieldy for purposes of effective debate, as well as too expensive to convene twice yearly in respect of travelling and subsistence allowances paid to its members. In an attempt to improve the position, in 1948 the basis of representation by Branches was altered so as to reduce the number of members of the Council from approximately 80 to about 48. Notwithstanding this considerable reduction, the size of the Council on the present basis of election, has increased to 59, owing to a gradual increase in the membership of the Association as a whole.

Not only is Federal Council, as it exists today, a body of some considerable size, but the amount of business dealt with at each meeting has increased to such an extent that, whereas some years ago it could be undertaken at a meeting lasting 2 days, it now necessitates a meeting extending over 3 days, with as often as not one or more evening sessions added. One most unsatisfactory feature of the meetings of Federal Council at present is the overcrowding of the agenda, with the result that towards the end of the closing session of each meeting important matters are dealt with in too hasty a fashion, and in the rush to finish the work of the meeting wrong decisions are apt to be made.

Partly as the result of rushed business and partly because new problems crop up at short notice, a great deal of important work is delegated to Committees, and this applies especially to the Executive Committee, which is responsible for carrying on the work of the Association in the interval between the meetings of Federal Council. As it is impracticable for various reasons to call the members of the Executive Committee together, scattered as they are over the Union, its deliberations with rare exceptions have to be conducted by correspondence, a most unsatisfactory and time-consuming procedure, as every member of the Committee will testify.

To meet the difficulties to which reference has been made, a recommendation was submitted to Federal Council some few years ago to the effect that the size of the Executive Committee should be increased from 10 as at present to about 15 members, and that the Committee should meet 3 or 4 times a year to transact the routine business of the Association, while the full Federal Council should be convened only once a year. This recommendation was rejected by Federal Council. It is possible that, under conditions as they are at present, a similar recommendation if made today might meet with more favourable consideration.

In recent years the growth of what is known as contract practice, and the importance which must be attached to it, has made the work of the Association even more difficult despite the recent modification in the machinery for dealing with these matters. The meetings of the Central Committee for Contract Practice are cumbersome and costly and the position, though improved, is not adequately met by the establishment of an Executive of the Central Committee consisting of its members resident in the Transvaal. In any projected scheme for the better working of the Association an effort must be made to integrate contract-practice procedures more intimately into the general machinery of the Association as a whole.

By reason of all that has been mentioned, the time is now ripe to review the present organization of the Medical Association of South Africa with two main objects in view:

(*a*) To re-model the machinery in order to improve efficiency, and

(*b*) to effect economy in view of the state of the Association's finances.

In my opinion little will be gained by attempting to alter the constitution in bits and pieces, or by patchwork. The time has come to make drastic changes in the framework of the Association necessitating radical amendment of its constitution.

RECOMMENDATIONS

Broadly speaking, the Association should be governed by *two* separate, elected bodies, viz:

(*a*) A *Federal Assembly* (or *Body*, or some other suitable title), to deal mainly with matters of policy, and

(*b*) A *Council*, to carry out executive functions.

The Federal Assembly

This body would replace the present Federal Council as we know it today and would meet annually. Its meetings would be held in conjunction with the statutory Annual General Meeting of the Association, and with the Annual Scientific Meeting (or Congress) when such takes place. If possible, successive meetings of the Federal Assembly would be held in different centres from year to year, as determined by the Assembly in session and depending on the location of the President for the year. This would enable him to be inducted and to preside at functions in his home area.

Composition. The Federal Assembly would consist of (*a*) representatives of the Branches, (*b*) representatives of National Groups within the Association, and (*c*) Members of the Council (*vide infra*).

Representatives of Branches would be elected more or less according to the quota presently in force for Federal Council, i.e. one representative for the first 50 members of a Branch and additional representatives for every 150 members over and above the basic 50, up to a maximum of 10 members for any one Branch. The election would be conducted by the respective Branches and elected representatives would hold office for 3 years.

Representatives of Groups would be elected, or nominated, by National Groups on the basis of one representative for each Group, provided that such representative is not concurrently an elected representative of a Branch.

The travelling and subsistence allowance of the members of the Federal Assembly, except they be members of the Council, would be met out of Branch or Group funds as the case may be. Each Branch would be entitled to send all its representatives to meetings of the Federal Assembly, or a lesser number as the Branch may determine with the right to vote by proxy.

At the first meeting of the Federal Assembly in each triennium a Chairmain and Deputy Chairman would be elected.

The Standing Orders of Federal Council (Schedule C) would have to be amended to meet the requirements of the Federal Assembly.

The Council

The Council would consist of (*a*) *ex officio* members, and (*b*) elected members.

The *ex officio* members would be the President, the President-elect and the Honorary Treasurer.

There would be 12 elected members holding office for a term of 3 years. They would be elected by the members of the Association as a whole on a Provincial (or geographical) basis, in a manner similar to that in force in the South African Medical and Dental Council and the College of Physicians and Surgeons of South Africa; that is to say, at least 1 member and not more than 4 members for each Province, including South-West Africa. For purposes of election South-West Africa would be linked with the Orange Free State.

The Council at its first meeting in each triennium would elect a Chairman.

The Council would meet at least 3 times a year, excluding its meeting at the time of the annual meeting of the Federal Assembly. Provision would be made for special meetings to deal with urgent business, provided a quorum was present, the number of such quorum to be laid down. This would make it unnecessary to elect an Executive Committee of the Council as is the case at present.

The Council would meet from time to time at a centre to be decided by the Council at its previous meeting. Special meetings of the Council might be convened at a centre nominated by the Chairman.

Standing Committees of Council

The Council would be empowered to appoint standing committees, the members of which need not necessarily be members of Council. The principal Standing Committees would be:

(*a*) The Contract Practice Committee,
(*b*) The Head Office and Journal Committee, and
(*c*) The Ethical Committee.

The size of each standing committee would be laid down by regulation, but power of co-option may be granted in the discretion of the Council.

The *Contract Practice Committee* would consist of members resident in the Transvaal, where the bulk of Contract Practice work is situated.

The *Head Office and Journal Committee* would consist of members resident in or near Cape Town, where the Head Office is located.

Each standing committee would be entitled to meet as often as necessary as a committee, but provision would be made for any such committee to sit in conjunction with the Council as special business may dictate.

The Council with its standing committees would be the executive body of the Association to carry out details of administration and make decisions on action to be taken, provided it functions within the policy of the Association for the time being in force as laid down by the Federal Assembly or the Annual General Meeting.

The travelling and subsistence allowances of the members of the Council would be a charge on the general funds of the Association. If the scheme as outlined were to be adopted, 3 or 4 meetings of the Council would involve an expenditure of what it costs to hold one meeting of the present Federal Council.

The *Standing Committee for Contract Practice* would replace the present Central Committee for Contract Practice. In this case, too, the need for a special Executive Committee of the Committee will fall away.

It is understood that Branches will be responsible as at present for all contact-practice matters in their respective areas, provided any action taken is within the policy of the Association determined in Federal Assembly and co-ordinated by the appropriate standing committee of the Council.

CONCLUSION

This memorandum embodies my views in a general way on the problem as to how the machinery of the Association can be made more efficient and at the same time not involve an ever increasing drain on its finances.

If the recommendations are approved by Federal Council in general principle, it will be necessary to formulate the new scheme in exact detail and co-ordinate the various components in such a way that the necessary amendments to the constitution can be drafted and submitted to Federal Council at a later date for discussion, modification and adoption. In this work I am willing to do my share in collaboration with the Secretary of the Association. I think this would be preferable rather than appoint a subcommittee for the purpose, but that is a question for Federal Council itself to answer.

REPORT OF SUBCOMMITTEE ON ECONOMICS OF MEDICAL PRACTICE

J. H. STRUTHERS

Chairman

It will be recalled that the Committee was established at the meeting of Federal Council held in Johannesburg during March 1957 to consider comprehensively, in the light of the work of the previous Committee on the Economics of Medical Practice and the memorandum prepared by the *ad hoc* committee appointed by the Executive Committee, what further steps should be taken to initiate a medical insurance plan which could be supported by the Association. The Committee has had other matters, which are also connected with the economics of medical practice in general, referred to it by a Branch of the Association, but in view of the above Federal Council resolution, has limited its report to the steps which should be taken by the Association to initiate a medical insurance plan. The Committee does however recommend that steps should be taken to investigate all the aspects of the economics of medical practice.

The Committee, after careful consideration of all the issues involved, has decided to recommend to Federal Council that a comprehensive medical insurance plan, similar to that originally envisaged by the Shapiro Committee, be proceeded with. The principle upon which this plan must be based is service to the public. No fees must accrue to the directors, nor must any profits be distributed to the shareholders or any other persons connected with the company. In the event of the company being wound up, any surplus will be distributed among charitable or like institutions to be nominated by the Federal Council of the Medical Association of South Africa. It must be the aim of the company to provide the South African public with a first-class medical service, and to pay the medical profession reasonable fees for the services rendered. The benefits must be comprehensive, and provide for treatment in the home, consulting room or hospital. Ancillary services, necessary to carry out contemporary medical treatment, must also be provided for, subject to the following conditions:

1. No cash benefits such as sick pay, death or funeral benefits will be paid by the Plan.

2. The supply of drugs, medicines or dressings will not be included as a benefit.

3. Hospital expenses, which form a considerable proportion of the costs of serious illness, must be included as one of the benefits, unless free hospitalization is provided as a service to the public by either the Provincial or Central Government authorities.

4. Maternity fees and maternity hospital expenses must also be included in the benefits provided by the Plan.

5. Dental services, the fees for which are limited, and therefore cannot fall into the category of 'crippling' costs, must be excluded from the benefits provided.

6. Some limitation must be imposed upon the costs connected with radiological and pathological investigations.

7. Costs incurred in connection with physiotherapy must also be limited.

8. It will be necessary to impose a waiting period on members, for it is certain that some persons will join merely to have certain treatment carried out and then resign. The waiting period should only apply to conditions of long standing and which do not require immediate treatment.

9. Persons who do not join through a group will be required to make a declaration of the conditions from which they are suffering, in order that the liability of the Plan may be determined.

10. The treatment of congenital deformities will not be paid for by the Plan, unless the child was born with such a condition during the term of the parents' membership.

Why the Committee Considers the Plan Essential

The Committee believes that private practice should be maintained as the pattern of medical practice in South Africa and, whatever form it takes, it should allow free competition, i.e. free choice of doctor by the patient and free choice of patient by the doctor. This pattern will be in the best interests of both the patients and the profession. It will not ensure that every doctor will make an adequate living, but it will at least ensure that each doctor could earn a living according to his own ability.

The biggest threat to this pattern of private practice has been the growth of the Benefit Society system, which is resulting in a rapid diminishing of the amount of private practice which is available. Benefit Societies should only cater for the valid lower income group of people.

The medical service which should be rendered to the public of South Africa should be similar to that at present provided by the existing approved medical aid societies, but because these medical aid societies, being small, cannot finance and provide full services, the Committee is of the opinion that it is the duty of the medical profession to organize the machinery whereby the public can pay for their medical services on an insurance basis.

The Committee has also learned that various insurance companies in South Africa are now preparing to give medical insurance to the public, and they feel that if the proposed medical insurance plan sponsored by the Association does not materialize, the profession will sooner or later be at the complete mercy of lay control.

Finance

The Committee proposes that the Plan be financed by a small interest-free loan made by each participating doctor. Although the exact amount required to start the Plan has not been calculated, it is thought that a loan of £10 by each participating doctor will be sufficient. In the event of a doctor resigning from the Plan, the amount standing to the credit of his loan account will be refunded.

Control

The Committee recommend that the control of the Plan be vested in a Board of Directors to be elected by the Medical Association of South Africa and the participating doctors. Provision should also be made for the inclusion of directors representing Commerce, Industry and other interested bodies. The number of directors elected by the profession should, however, represent not less than two-thirds of the total on the Board of Directors. The Committee also feels that the Minister of Health and the Administrator of the Province should each be asked to nominate an observer to attend meetings of the Board. The reasons why the Committee feels that control should be vested in the profession are:

1. The profession is providing the service.
2. The Plan will be financed by the profession and, should any crisis arise, the fees involved will be due to the profession.
3. The major portion of the business conducted will be concerned with medical matters and it feels that it will be better performed by men trained in that profession.

Fees and Subscriptions

The Committee feels that the principle of accepting lower fees for service to the less fortunate members of the community should be retained. It feels that the most equitable method to provide this service would be in the following manner:

A schedule of fees would be fixed for services to be rendered to the average income group. Thereafter, other schedules would be evolved for the lower and higher income groups. It is possible that as many as 5 different schedules will be used.

Members of the Plan will be provided with identification cards and these cards will not indicate in any way to which particular income group the patient belongs. The object in view here is to prevent criticism from the lower income groups that the service being given is of a lower order than that given to the higher income groups.

Fees will be paid to the profession on the basis of 'per service rendered' and based on the appropriate schedule. As the medical practitioner will not know which schedule applies, he will merely fill in the nature of the service rendered and the amount of the account will be assessed by the Plan. If the medical practitioner is of the opinion that the patient belongs to a higher income group than that stated, then he can refer the case to the Plan for investigation.

At present, many practitioners complain of the complicated forms that have to be completed when rendering accounts to medical aid societies. The accounts are then handed or sent to the patients, who are lax in forwarding them to their societies. Consequently, payment is delayed. It is proposed that the accounts to be rendered to the Plan be forwarded directly by the medical practitioner as soon as treatment has been completed, or at the end of each month.

Subscriptions will be based on the member's income, and it is recommended that when groups enrol, a lower rate of subscription be charged. Group business is easy to handle from the point of view of collecting subscriptions and handling queries. Persons joining as individuals will have to pay a higher rate to cover the costs of administration, which will be higher in those cases, and to cover the extra risk.

Specialist Services

The Committee recommends that the present methods of quoting different fees for specialists and general practitioners in the tariff of fees be retained. It was agreed that where a case is sent to a specialist for opinion and the recommended treatment can be carried out by the general practitioner. the question of the fee to be paid will be reviewed by the directors if the case is retained by the specialist.

Participating Medical Practitioners

If any specialist or general practitioner wishes to participate in the Plan now being recommended, he will be required to:

(i) enter into a contract with the Plan agreeing to abide by the fees fixed by his Branch of the Medical Association of South Africa and in the event of a dispute over fees, to accept the decision of his colleagues on the Board of Directors as final;

(ii) apply for recognition annually and pay a small fee to cover the costs of stationery and service supplied by the Plan.

Lists of names of participating doctors will be made available to members, who will be warned that they may incur extra fees if they do not seek attention from the participating doctors.

It is recommended that if a person is attended by a non-participating doctor the Society may make a grant direct to the member of an amount to be assessed by the Society in terms of its rules.

All participating doctors will be required to become members of the Medical Association of South Africa.

Commencement of Operations

The Committee recommends that the Plan be commenced as soon as possible in one area only. It thinks that, in view of the financial responsibility involved, it would be unwise to commence operations on a national basis. It will be essential to run a pilot Plan in one area in order to train personnel and solve the unexpected difficulties which inevitably arise during the establishment of a new business. The Plan can then be established in other areas, which could be supplied with accounting and other manuals. The Committee feels that the Transvaal is the most suitable area in which to commence operations.

Once commenced, it will be necessary to co-ordinate the Plan policies and provide a source from which reliable statistics may be obtained. It will also be necessary for the larger Plan to carry extra, highly-trained personnel who could take over one of the other Plans in the event of an emergency.

In recommending to Federal Council that operations be commenced as soon as possible, the Committee wishes to draw attention to the fact that a considerable amount of work still remains to be done. It therefore recommends that the services of a highly-qualified and experienced accountant be obtained as soon as possible, to work out the details of the Plan. He will have to prepare all the pamphlets and forms of contract, etc. He will have to organize all the publicity and actively enlist the support of individual members of the profession by way of contributions, etc. He will also have to obtain actuarial advice to determine.

(*a*) the scale of contributions;
(*b*) a sliding scale of professional remuneration relative to the various economic groups participating in the Plan.

To this end he may have to consult existing medical aid societies in order to obtain information to aid him in calculating what the costs are going to be. Once these figures are obtained he may, for instance, have to investigate whether it is necessary to underwrite the risk with an insurance company.

In conclusion, the Committee would like to stress its opinion that unless the unanimous support of every section of the profession is obtained for the Plan its success will be jeopardized.
12th July 1957.

IN MEMORIAM

ARCHIBALD DUNCAN MCKENZIE, M.B., CH.B., F.R.C.S. (EDIN.)

Dr. J. A. Macfadyen of Durban writes: On 9 August 1957 Archibald Duncan McKenzie passed away in Durban at the age of 71.

Dr. McKenzie was the son of Dr. Archibald McKenzie, of Durban, who for many years was one of the leading practitioners in South Africa, and who after retirement served as a senator.

Archibald Duncan McKenzie

Duncan McKenzie qualified in Edinburgh and joined his father in general practice before the first World War. He served with distinction in the S.A.M.C. in East Africa, reaching the rank of Major. After the war he worked in Edinburgh, took his F.R.C.S., and returned to surgical practice in Durban. He was for many years a senior visiting surgeon at Addington Hospital, and is remembered for his clinical sense and good surgical judgment. During this time he also served as President of the Natal Coastal Branch of the Medical Association of South Africa.

When War broke out in 1939 he was one of the first to volunteer for active service, and he commanded, with the rank of Colonel, the first South African Hospital (No. 4) to leave the Union for East Africa. He subsequently took this hospital to Egypt. When No. 4 was broken up, he was transferred to the Command of No. 5 S.A. General Hospital, and at the end of the war he commanded Springfield Military Hospital at Durban.

After the war, having been for so long in administrative posts, he did not return to surgical practice, but became Military Pensions Officer in Durban, which post he occupied until shortly before his death.

Duncan McKenzie was a true friend to those who knew him. Happily married with a family of two girls, one a doctor, and a son, his home for many years was a place of geniality and friendship. His kindly and gentle influence pervaded the atmosphere, and brought happiness to the many friends who were granted his hospitality.

His recreations were polo, which he played well, and tennis, which he enjoyed in a social way, while racing was a constant interest to him. He served for a number of years as a steward of the Durban Turf Club.

During the last few years he had constant trouble with his eyesight, which was a great handicap to him. But he was never heard to complain, although his interests were narrowed in consequence and he gradually had to give up one interest after another. A great grief to him was the prolonged illness and death of his wife, who had always been a source of strength and companionship to him.

To those who knew him his loss is keenly felt, and his geniality, uprightness and gentleness of spirit remain as a precious memory.

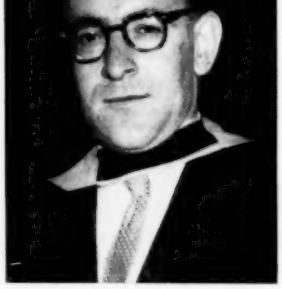
Dr. J. P. de Villiers, of Cape Town, writes: With the passing of Duncan McKenzie many of us would like to place on record what a privilege it was to have known him. This lovable and colourful character will long be remembered by his many friends. As A.D.M.S. of the 1st S.A. Division I was able to appreciate his sterling qualities as Commanding Officer of a field hospital.

Duncan was an able, fair-minded and highly qualified medical officer. This, with his keen sense of humour made him an ideal O.C. and he always created an atmosphere of efficiency and cheerfulness, which spread from staff to patients. They all loved him, and to me it was always a pleasure to visit his hospital. The S.A.M.C. built up a high reputation during World War II, and Duncan McKenzie made an important contribution towards that reputation.

* * *

DR. A. MOFFSON

Dr. J. W. Blignault of Queenstown writes: The death occurred suddenly of Dr. A. Moffson at the age of 30 years at Cape Town on Saturday, 6 July 1957. At the time of his death Dr. Moffson was a Medical Officer on the staff of Valkenberg Hospital.



Dr. A. Moffson

'Moff', as he was known to his friends, was educated at Jeppe High School. After his matriculation he proceeded to the University of the Witwatersrand where he obtained the M.B., B.Ch. in 1949. He held house-surgeon posts at the Edenvale Hospital during the following year and in 1951 began to devote himself full-time to the study of psychiatry, holding hospital appointments at Tara Hospital, Johannesburg and Sterkfontein Hospital, Krugersdorp. The greater part of 1952 he spent in England working among others, under Dr. Ritchie Russell. He returned to an appointment as Medical Officer at Weskoppies Hospital, Pretoria in 1953 and in 1956 obtained the Diploma in Psychological Medicine from the University of the Witwatersrand.

Among his friends and those with whom he worked he was known as a conscientious and hard worker, always keen and enthusiastic about anything that he undertook. He will be remembered for the enthusiasm he aroused in those working with him and above all his acutely questioning mind—never satisfied with anything that he could not analyze into its parts and explain reasonably.

To his widow and small son a deep and heartfelt sympathy is extended in their irreparable loss.

FRANK FORMAN MEDICAL FOUNDATION: 1958 AWARD

The Board of Trustees of the Frank Forman Medical Foundation announce that:

1. The sum of seven hundred pounds (£700) will be available for postgraduate award for the year 1958.

2. In terms of the Trust Deed, the Board of Trustees are directed to use their discretion in making the award, in such manner as shall promote or assist the study of medicine and/or medical research at the University of Cape Town or elsewhere.

3. The award may take the form of a *Scholarship* to a medical graduate for postgraduate medical study for 1 year; and/or
A *Fellowship* to a university graduate for postgraduate medical research for 1 year; and/or
A *Grant*, either independently or in conjunction with other research grants, to any person or institution or body for special medical investigation or research.

4. Applications should be addressed to the Secretary, Frank Forman Medical Foundation, P.O. Box 46, Cape Town, and must reach him before 1 October 1957.

NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

Fludrocortone

The availability of Fludrocortone Topical Lotion 0·1% and 0·25% strengths now provides a *greaseless* product for rapid, economical control of inflammatory conditions of the skin without staining or soiling the clothes. Messrs. Merck Sharp and Dohme supply the following:

Fludrocortone (9-alpha-fluorohydrocortisone acetate) is probably the most active anti-inflammatory agent known for dermatologic use.

It is effective topically for the local management of allergic dermatoses, such as contact dermatitis and atopic dermatitis including allergic eczema, disseminated neurodermatitis and eczematoid dermatitis. It is effective against seborrheic dermatitis, pruritis with lichenification, and non-specific anogenital pruritis.

Presentation. Fludrocortone Topical Lotion in 0·1% and 0·25% strengths, both in 15 c.c. plastic squeeze bottle. Fludrocortone Topical Ointment in 0·1% and 0·25% strengths in 5 g. tubes.

Manufacturer: Merck Sharp & Dohme International Division of Merck & Co., Inc., P.O. Box 5933, Johannesburg.

Cremomycin Sulfasuxidine with Neomycin

Cremomycin is a new, pleasant tasting antidiarrhoeal preparation with broad spectrum effect. Messrs. Merck. Sharp & Dohme supply the following:

Cremomycin is a fine particle suspension providing the combined antibacterial activities of 'Sulfasuxidine' with neomycin, and the protective adsorbent actions of kaolin and pectin, for the comprehensive treatment of both specific and non-specific diarrhoeas.

Cremomycin helps to consolidate fluid stools, suppress enteric bacteria, and soothe the irritated mucosa, and to afford prompt remission of the distressing and disabling symptoms of diarrhoea.

Dosage: Infants—½ to 1 teaspoonful 4 to 6 times daily. Children under eight—1 to 2 teaspoonfuls 4 to 6 times daily. Children over eight—1 to 1½ tablespoonfuls 4 to 6 times daily. Adults—1 to 2 tablespoonfuls 4 to 6 times daily.

Supplied in 4 ounce bottles by Merck Sharp & Dohme International Division of Merck & Co., Inc., P.O. Box 5933, Johannesburg.

Co-Deltra and Co-Hydeltra Buffered predni-steroids

Co-deltra (buffered prednisone) and Co-hydeltra (buffered prednisolone) were released in 5 mg. tablets early this year. In order to facilitate a gradual reduction in dosage and/or to double the antacid effect Co-deltra and Co-hydeltra are now available in 2·5 mg. strengths.

Messrs. Merck Sharp & Dohme supply the following:

Many investigators report that a relatively high percentage of patients on steroid therapy show an increase in gastric acidity. This may not be accompanied by the usual signs of gastric distress due to the 'masking effect' of the steroid therapy itself. As a result ulcers may develop or recur without being accompanied by the classic symptoms.

Concomitant administration of acid neutralizing agents effectively reduce the incidence of gastric irritation and are more and more commonly being prescribed routinely.

Co-deltra and Co-hydeltra are multiple compressed tablets with a steroid core surrounded by a second tablet of magnesium trisilicate and aluminium hydroxide gel. Co-deltra and Co-hydeltra offer all the advantages of prednisteroid therapy plus positive antacid action. By selecting the strength of tablet used the physician can control the amount of antacid being administered. Additional alkali may be administered if desired or required. There is no increase in price.

Dosage: Dosage is based on the steroid content and is the same as for any plain or unbuffered product.

Presentation: Co-Deltra: 2·5 mg. and 5 mg. strengths containing: prednisone plus 50 mg. of magnesium trisilicate and 300 mg. of aluminium hydroxide gel. Both strengths contain the same amount of antacid.

Co-Hydeltra: 2·5 mg. and 5 mg. strengths containing: prednisolone plus 50 mg. of magnesium trisilicate and 300 mg. of aluminium hydroxide gel. Both strengths contain the same amount of antacid.

Supplied by Merck Sharp & Dohme International Division of Merck & Co., Inc., P.O. Box 5933, Johannesburg.

SELECT LIST OF RECENT ACCESSIONS TO THE MEDICAL LIBRARY, UNIVERSITY OF CAPE TOWN

Alarotu, H. The histopathologic changes in the myenteric plexus of the pylorus in hypertrophic pyloric stenosis of infants (pylorospasm). Helsinki, University, 1956.

Bailey, N. D. Hospital personnel administration. Chicago, Physicians' record co., 1954.

Balint, M. The doctor, his patient and the illness. London, Pitman, 1957.

Barach, A. L. and Bickerman, H. A. Pulmonary emphysema. Baltimore, Williams and Wilkins, 1956.

Bettmann, O. L. A pictorial history of medicine. Reprinted. Springfield, Ill., Thomas, 1956.

Burnet, Sir F. M. Enzyme antigen and virus; a study of macromolecular pattern in action. Cambridge U.P., 1956.

Ciba Foundation. Experimental tuberculosis; bacillus and host, with an addendum on leprosy; edited by G. E. W. Wolstenholme and Margaret P. Cameron. London, Churchill, 1955.

Clifton, C. E. Introduction to bacterial physiology. New York, McGraw-Hill, 1957.

Cumming, E. and Cumming J. Closed ranks: an experiment in mental health education. Cambridge, Mass., Harvard U.P. for the Commonwealth fund, 1957.

De Coursey, R. M. The human organism. New York, McGraw-Hill, 1955.

Fleming, P. W. A study of the nutritional state of urban Bantu women (Witwatersrand) relative to their dietetic customs. Typescript, 1957.

Francis, C. C. and Farrell, G. L. Integrated anatomy and physiology; 3rd edition. St. Louis, Mosby, 1957.

Fry, B. A. The nitrogen metabolism of micro-organisms. London, Methuen, 1955.

Gans, H. The anatomy of the intrahepatic structures and its repercussions on surgery. Amsterdam, Elsevier, 1955.

Garven, H. S. D. A student's histology. Edinburgh, Livingstone, 1957.

Great Britain. Health, Ministry of. Report of a working party on anaesthetic explosions, including safety code for equipment and installations. London, H.M.S.O., 1956.

Harris, G. W. Neural control of the pituitary gland. London, Arnold, 1955.

Heaf, F. R. G. Symposium of tuberculosis. London, Cassell, 1957.

Hewer, C. L. Recent advances in anaesthesia and analgesia (including oxygen therapy); 8th edition. London, Churchill, 1957.

Holmes, Sir G. M. Selected papers; compiled and edited by F. M. R. Walshe. London, Macmillan, 1956.

Hughes, E. S. R. Surgery of the anus, anal canal and rectum. Edinburgh, Livingstone, 1957.

Irsigler, F. J. Neurochirurgiese aspekte in verband met apoplektiese breinbloedings. Pretoria, 1955.

Johns Hopkins University. International treponematosis laboratory centre and United Nations. World Health Organization. Biology of the treponematoses, by T. B. Turner and D. H. Hollander. Geneva, World health organization, 1957.

Leevy, C. M. Practical diagnosis and treatment of liver disease. New York, Hoeber-Harper, 1957.

Little, D. M. 'Controlled hypotension' in anesthesia and surgery. Springfield, Thomas, 1956.

Magill, P. L. and others, editors. Air pollution handbook. New York, McGraw-Hill, 1956.

Marchand, P. E. Diaphragmatic hernia. (Typescript), 1956.

Martius, H. Gynecological operations; with emphasis on topographic anatomy. London, Churchill, 1957.

Massie, W. A. Medical services for rural areas: the Tennessee medical foundation. Cambridge, Mass., Harvard U.P., 1957.

New York (City). The special research project in the health insurance plan of Greater New York. Committee for. Health and medical care in New York city: a report. Cambridge, Mass., Harvard U.P. for the Commonwealth fund, 1957.

Oster, G. and Pollister, W. Physical techniques in biological research. New York, Academic press, 1955.

Rickham, P. P. The metabolic response to neonatal surgery. Cambridge, Mass., Harvard U.P., 1957.

Samuels, S. S. Diagnosis and treatment of vascular disorders (Angiology). Baltimore, Williams and Wilkins, 1956.

Schnitzer, R. J. and Grunberg, E. Drug resistance of micro-organisms. New York, Academic press, 1957.

Stuart, R. W. G. An investigation of static disorders of the foot. (Typescript), 1956.

United nations. World health organization. Cardiolipin antigens: preparation and chemical and serological control, 2nd edition. Geneva, The Organization, 1955.

United Nations. World health organization, Geneva. The teaching of hygiene and public health in Europe; a review of trends in undergraduate and postgraduate education in nineteen countries; by F. Grundy and J. M. Mackintosh. Geneva, The Organization, 1957.

PASSING EVENTS : IN DIE VERBYGAAN

Mr. Alexander J. Walt, M.B., ChB. (Cape Town), M.S. (Minn.), F.R.C.S. (Canada), F.R.C.S. (Eng.), has commenced practice as a Surgeon at Medical Centre, Heerengracht, Cape Town. Telephones: rooms 3-7539, residence 69-5577. If no reply, 69-2924.

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Dr. Alexander J. Walt, M.B., Ch.B. (Kaapstad), M.S. (Minn.), F.R.C.S. (Kanada), F.R.C.S. (Eng.), praktiseer nou as chirurg te Mediese Sentrum, Heerengracht, Kaapstad. Telefone: kamers 3-7539, woning 69-5577. Indien daar geen antwoord is nie, skakel 69-2924.

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Sir Russell Brain, President of the Royal College of Physicians, London, will address the College of Physicians and Surgeons of South Africa on 1 October, on 'The Neurology of the Cervical Spine' at the Physiology Lecture Theatre, at 8.15 p.m. Phone number of the venue: 5-2455.

REVIEWS OF BOOKS : BOEKRESENSIES

AIDS TO OSTEOLOGY

Aids to Osteology. Sixth Edition. By Nils L. Eckhoff, M.S. (Lond.), F.R.C.S. and J. Joseph, M.D. (Glas.), M.R.C.O.G. Pp. viii + 193. 42 Figures. 10s. 6d. London: Baillière, Tdalinl and Cox Ltd. 1957.

Contents: I. Introduction. II. The Bones of the Upper Limb. III. The Bones of the Lower Limb. IV. The Vertebral Column. V. The Sternum and Ribs. VI. The Skull. Index.

The author who sets out to produce a small book on a large subject must follow a difficult course between two abysses. On the one hand is the danger of a text so abbreviated as to become vapid, on the other that horror of horrors, a 'cram-book'. The authors of the many volumes in the 'Students' Aids' series are thus set a difficult task, but one which is increasingly worthy of accomplishment as the price of standard text-books progressively rises.

It may fairly be said that in the present edition of *Aids to Osteology* Drs. Eckhoff and Joseph have in a very large measure succeeded in their object. Their production can justifiably be recommended to the student who finds it advantageous to have a small-sized text in osteology at hand in preference to a section in a bulky text-book. Such a student, working from the bones with this text to guide him, is not likely to go seriously astray.

L.H.W.

CORRESPONDENCE : BRIEWERUBRIEK

OPEN PANELS *versus* CLOSED PANELS

To the Editor: It was with a deep sense of shock and amazement that I saw Dr. Krige's letter published in the *Journal* of 7 September on the very eve of the meeting of Federal Council.

In my capacity as Hon. Secretary of the Southern Transvaal Branch Council I had previously seen a copy of this letter which appeared in the guise of a letter addressed to The Secretary, Federal Council, South African Medical Association, Cape Town, and which, in that form, had been circularized by the writer to selected members of the Branch in advance of the meeting of Federal Council.

At a meeting of my Branch Council of 3 September, this letter was considered and the minutes record that:

> 'It was decided that the matter should be treated with the contempt it deserves, and that no action be taken.'

As one of the members of the Branch Council who was present at the meeting to which Dr. Krige refers, I take the strongest exception to the abusive terms with which he indicts the unnamed persons who participated in the meeting. His reference to the Open Panel as a system in which 'dichotomy flourishes like the green bay tree', and in which operative gynaecology is grossly overdone, constitute a mass defamation of his colleagues which is aggravated rather than mitigated by the fact that those to whom he refers are unnamed, with the exception of a pointed reference to a respected and distinguished member of the Southern Transvaal Branch Council.

Perhaps the most shocking feature of the publication of this letter is that the Editor of the *Journal* of our Association saw fit to print it in its present form.

Jonathan Gluckman

1206 Medical Centre
Jeppe Street
Johannesburg

10 September 1957

[The *Journal* is the Forum of the members of the Medical Association of South Africa. The Editor is the ringkeeper and letters published do not necessarily reflect his opinions.—Ed.]